DOCUMENT RESUME

ED 323 075 RC 017 733

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TITLE Off to a Poor Start: Infant Health in Rural America.
INSTITUTION Public Voice for Food and Health Policy, Washington, DC.
SPONS AGENCY Ford Foundation, New York, N.Y.
PUB DATE Oct 88
NOTE 69p.
AVAILABLE FROM Public Voice for Food and Health Policy, Suite 522, 1001 Connecticut Ave., N.W., Washington, DC 20036 ($15.00).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Birth Weight; Child Health; Data Interpretation; Federal Programs; *Health Needs; Health Services; *Infant Mortality; Infants; *Low Income Counties; *Population Trends; Poverty Areas; Retrenchment; Rural Areas; *Rural Population
IDENTIFIERS Federal Budget; Health Delivery Systems; Infant Care; *Prenatal Care

ABSTRACT

This study analyses infant health data from the 332 poorest rural U.S. counties for the period 1975-1985. The study updates and expands a report released in 1986. The data show that, until 1980, rates of infant mortality and low birthweights (LBW) improved significantly, especially in rural areas. The trend toward better prenatal care in rural poor counties was reversed between 1980 and 1984, with poor rural blacks being hardest hit. Rural poor counties experienced a steady increase in LBW rates between 1980 and 1985, with the 1985 figure nearly 30% higher than the national LBW rate. The infant mortality rate of rural poor counties that year was nearly 33% higher than the national rate. Had national rates prevailed in those counties, 4,000 to 6,000 fewer infant deaths would have occurred between 1975 and 1985. Pregnant women in rural poor counties also were more likely to receive inadequate prenatal care than pregnant women in other areas. The early 1980s also marked a period of increasing poverty and declining access to maternal and child health care and food assistance. Major funding cuts hit virtually all public assistance for the rural poor. Hardest hit by Medicaid eligibility changes were the working poor, largely in rural areas. The document recommends establishment of a federal rural maternal and infant health care initiative targeting poverty areas. It also suggests increasing education and research efforts to develop more efficient infant health care delivery and nutrition programs. The document contains numerous tables and graphs and 40 references. (TES)

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OFF TO A POOR START: INFANT HEALTH IN RURAL AMERICA

A Report by Public Voice for Food and Health Policy

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Price: $15.00
Order from Public Voice, Suite 522,
1001 Connecticut Ave., N.W.
Washington, D.C. 20036

October, 1988

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ACKNOWLEDGMENTS

We would like to express our appreciation to the Ford Foundation for its support of our work on the rural poor. Special thanks to Norman Collins and Susan Sechler for their continued commitment to our work.

We wish to express our gratitude to Dr. Richard Frank, Dr. Donna Strobino and Catherine Jackson of the Department of Health Policy and Management at the Johns Hopkins University for providing us with most of the data used in the report.

We also wish to thank Eric McFarland of Public Policy Technology for providing the analyses and preparing the data, and to Rebecca Frobom for providing data analysis as well as assisting in the report's preparation.

Special thanks to Karine Roesch for the extensive analyses she provided and for preparation of the graphics used throughout the report.

We also extend our appreciation to Dr. Rae Grad of the National Commission to Prevent Infant Mortality for her insightful suggestions and for editorial contributions.

The editing contributions of Eileen Kugler and Stacy Collins were also invaluable to the report.

PREFACE

In this report, Public Voice documents the alarming status of infant health in America's impoverished rural areas. It reveals the unacceptable disparities in infant mortality and low birthweight rates in poor rural communities compared to national rates. Especially distressing is the study's finding that a recent and steady increase has occurred in the percent of babies born abnormally small in rural poor America. This situation represents a rural infant health crisis, as low birthweight infants are more than 20 times more likely to die in their first year of life, and experience significantly higher rates of disability, than normal weight infants.

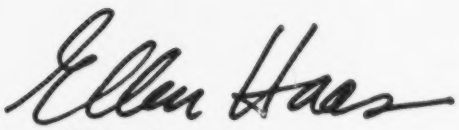
There is widespread recognition that early and continuous prenatal care can reduce infant mortality and low birthweight considerably. Yet infants born in rural poor America continue to lack such care far too frequently, with a high proportion receiving late care or no care at all. As stated by Senator Lawton Chiles, Chairman of the National Commission to Prevent Infant Mortality, it is not just that far too many infants die unnecessarily, but many of those that live face lives "with physical or emotional disabilities that take a severe toll both in human and fiscal terms." Chiles also pointed out that these problems are well within our reach to solve:

> "It is not that we lack the know-how to have babies born healthy. We know how to do that better than any other nation in the world. What we lack is a sense of priority, of national importance, to the steps that must be taken to assure each baby the best possible start in life."

Recent history indicates that progress can be made. In fact, this study documents the impressive speed at which progress in rural infant health was achieved during the 1970's -- a period marked by a severe economic recession, yet one in which numerous health and assistance programs were expanded and aggressively targeted to reach the needy rural poor. The 1970's also saw improved infant health technologies reaching remote regions of the country, increasing the capability of rural medical providers to cope with problem pregnancies and low birthweight infants. **However, the report also documents the disturbing turn-around of these positive trends in rural infant health that occurred during the 1980's.**

The severity of the problems presented here merit action by Congress and the Administration to encourage and support initiatives targeted at addressing rural infant health needs. **Public Voice strongly recommends that steps be taken to increase the access of rural poor women to adequate and high quality maternal care, as well as to nutrition assistance programs.** This must be done to turn around the current increasing trend in low birthweight and to reduce the number of preventable infant deaths among the rural poor.

We can no longer close our eyes on this distressing and preventable crisis. America has the resources and capability to ameliorate these conditions and we must garner the national commitment and support to do so.



Ellen Haas
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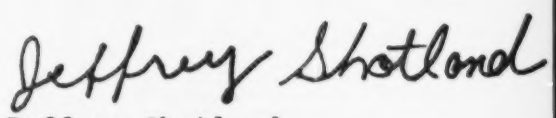

Jeffrey Shotland
Director of Nutrition

EXECUTIVE SUMMARY

One significant measure of a nation's success in providing for the health of its citizens is the status of newborn health. Monitoring conditions among specific high-risk groups such as the poor is especially critical. Several studies have documented diminishing progress in infant health nationally and in urban areas during the 1980s. With few exceptions, the status of infant health in rural America, with its unique problems and increasing rates of poverty, has been ignored. Therefore, this study focused exclusively upon trends in infant health in America's impoverished rural areas.

Public Voice found an alarming disparity between rural counties and the nation as a whole in rates of infant mortality, low birthweight, and inadequate prenatal care. Of particular concern are rates of low birthweight in these counties, where the 1980s saw a dramatic reversal of previous years of progress.

The study reported here involved analyses of infant health data from the 332 poorest rural counties in the nation[1] for the period 1975-1985[2]. The study updates and expands upon a previous report released by Public Voice in 1986. In that study, we had found that rates of infant mortality and low birthweight were significantly higher in the United States' 85 poorest rural counties than they were in the rest of the nation. In addition, we had shown that the gap was increasing.

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[1] Rural Poor Counties (RPCs) are defined in this report as all nonmetropolitan counties in which at least 25 percent of residents were living below the federal poverty threshold in 1979 (1979 is the most current year for which county level poverty data are available. The source of these data is the 1980 Census). Throughout this report the terms "rural" and "nonmetropolitan" are used interchangeably, but unless otherwise noted refer to nonmetropolitan.

[2] 1985 county level inadequate prenatal care data were not yet available at the time of the study.

Analyzing data provided by the National Center for Health Statistics, the present study found that, through the late 1970s and into 1980, rates of infant mortality and low birthweight improved significantly, especially in rural areas. But the trend rapidly deteriorated between 1980 and 1982 throughout the nation. And poor rural regions, already experiencing higher rates, were especially hard hit. In many poor rural areas the trend actually reversed, resulting in increasing rates of infant deaths, low birthweight and inadequate prenatal care.

KEY FINDINGS OF THE STUDY

Low Birthweight Rates (LBW)

o Perhaps the most critical of the study's findings, low birthweight rates underwent a steady and significant increase in rural poor counties between 1980 and 1985.

o The 1985 low birthweight rate in rural poor counties (8.8 percent) was nearly 30 percent higher than the national rate (6.8 percent) for that year.

o Rural poor county race-specific LBW rates for whites and blacks were higher than national race-specific rates.

o States where rural poor counties experienced the highest low birthweight rates included Alabama, Georgia, Colorado, Illinois, Louisiana, Mississippi, and South Carolina.

Definition: Low birthweight (LBW)= Infants weighing less than 2,500 grams (5.5 pounds) at birth. The LBW rate is the number of LBW infants per 100 live births.

Infant Mortality Rates (IMR)

o In 1985, the infant mortality rate of 13.6 among rural poor counties was nearly a third higher than the national rate for that year (10.6).

o Had national rates of infant mortality prevailed in rural poor counties, 4,000 to 6,400 fewer infant deaths would have occurred there between 1975 and 1985.

o The annual rate of progress in lowering infant mortality rates in rural poor counties fell from 11.9 percent between 1975 and 1980 to less than half that rate (5.0 percent) during the 1980-1985 period.

o Race-specific infant mortality rates for whites and blacks living in poor rural counties were also significantly higher than national race-specific rates.

Definition: Infant mortality rate (IMR)= The number of infants born alive who die before their first birthday per 1,000 live births.

Inadequate Prenatal Care Rates (PNC)

o Pregnant women residing in rural poor counties are more likely to receive inadequate prenatal care than pregnant women residing in other areas of the nation. In 1984, the gap between the two rates was approximately 12 percent.

o The percentage of pregnancies that received inadequate care in rural poor counties fell between 1975 and 1980, reaching its lowest point in 1980. But between 1980 and 1984 the trend was reversed, with rural poor blacks hit the hardest. Inadequate care rates actually increased during this period for blacks.

o Rural poor county rates of inadequate care were highest in the following states: Arizona, Alabama, New Mexico, Texas, and West Virginia.

Definition: Inadequate Prenatal Care= births to women who either received no prenatal care or who began receiving such care during the third trimester of their pregnancy. The rate is expressed per 100 live births.

Cuts in Programs and Increased Poverty

The early 1980s also marked a period of both increasing poverty and declining access to maternal and child health care and food assistance. Major funding cuts hit virtually all programs established to increase access by the rural poor to health care and other forms of assistance.

Changes in Medicaid eligibility requirements during the period resulted in the denial of this vital health care program to over one million impoverished participants.

Hardest hit by the changes in eligibility were the working poor--who comprise a significantly larger proportion of the poor in rural areas than they do in urban areas.

Other program cuts implemented during the early 1980s also impacted seriously on rural access to health care. Among the programs affected were those consolidated into the Maternal and Child Health (MCH) Block Grant which were cut by 18 percent and the Community Health Centers (CHC) whose budget declined by 13 percent.

The 1980s also marked a period in which small rural hospitals were faced with particularly devastating economic hardships. Many were forced to close down--eliminating not only the services and beds they provided but also much of the health manpower that staffed them. Soaring medical liability insurance costs further drained many already under-served rural counties and communities of their only obstetricians. As a result, access to maternal and child health care in rural America has been severely hampered.

While our research does not prove a direct causal link between declining rural infant health and the dismantling of health care and food assistance programs, the relationship cannot be denied. Rural infant health would certainly suffer, faced with the combined effects of cuts in maternal and child health funding, restricted eligibility for Medicaid, decreased participation in the food stamp program, the closing down of rural hospitals, and decreases in funding for medical personnel placed in medically under-served areas, all at a time of increasing rural poverty.

Recommendations

Several recommendations to address the compromised status of infant health among the rural poor are presented. They include:

o establishment, at the federal level, of a rural maternal and infant care initiative to target poor rural areas for increased maternal and child health care;

o increased education and research efforts focused on developing more efficient infant health care delivery to impoverished rural areas;

o initiatives to expand access to food and nutrition assistance programs such as WIC and Food Stamps.

INTRODUCTION

Each year, more than 40,000 infants in the United States die before their first birthday. Despite the costly medical interventions and technologies available, more than one out of every hundred infants born in this country die during the first year of their life. In poor rural areas throughout the nation, infants have even less of a chance to survive.

While substantial improvements in maternal and infant health have been achieved in rural America in recent decades, trends in the 1980s in rural infant health, especially infant mortality and low birthweight, have undergone a serious reversal and continue to lag behind national rates.

While several studies have documented the recent deterioration in infant health that has occurred on a state-wide basis and in urban areas, there exists a void of timely assessments of rural county infant health trends. This is largely due to the difficulties encountered in accessing and analyzing current data sets from small rural counties. In addition, the rural poor are a less visible, more dispersed population with fewer advocates to monitor and disseminate reliable information regarding the conditions they face.

Increasing Rural Poverty and Cuts

Poverty is not primarily an urban phenomenon. While the nation's urban areas have experienced a modest decline in poverty rates since 1983, the poverty rates in rural communities have continued to climb. By 1986, rural rates of poverty surpassed rates in our nation's large urban centers for the first time in decades[3]. **The 1986 rural poverty rate of 18.1 percent, representing 9.7 million poor residents, was almost 50 percent higher than the 12.3 percent rate in the nation's metropolitan areas.**

Young adults and their children have been particularly hard hit by recent economic problems in rural communities. Between 1979 and 1986, the poverty rate grew by 55 percent among young adults age 18 to 44. Over the same period, the poverty rate increased by 39 percent among children under age 18 and only 22 percent for older-age adults between the ages of 45 and 64. In 1986, one out of every four children in rural America lived in poverty. Moreover, one out of every five young

[3] Large urban center refers to the Census Bureau's Central City category.

rural families (below the age of 45) lived below the poverty line.

A large and growing number of rural young adults are poor even though they have jobs. In 1986, 62 percent of poor rural adults aged 18 to 44 held a job at least part of the year, but their incomes remained below the poverty line. Almost three-quarters of rural children (72%) in poverty lived in families in which at least one adult was working.

BACKGROUND

Infant Mortality

Definition: Infant mortality rate (IMR)= The number of infants born alive who die before their first birthday per 1,000 live births.

The infant mortality rate has long been regarded as a primary barometer of a population's health status as well as an important indicator of the adequacy and effectiveness of a nation's (or a community's) health care system and the access to food it provides[1].

National Trends-Slowing Progress
Since the early part of this century, infant mortality rates have undergone, with few significant exceptions, a steady decline. Improvements in health care for pregnant women and infants, along with significant strides in medical technologies, contributed to these positive trends. More recently, however, less hopeful signs have appeared: since 1981, the nation's progress in lowering infant mortality rates has slowed significantly.

In fact, a complete reversal in the trend toward long-term improvement occurred in many regions of the country--and hit hardest in many of the nation's poorest areas. Although the outlook appeared better in 1980 before the slowdown in progress occurred, the nation and the states now appear likely to fall short of nearly all the infant health objectives established by the Surgeon General in the late 1970s for 1990.[2]

A recent study on infant health status by the Food Research and Action Center found that progress in reducing infant mortality had slowed from a rate of five percent per year between 1978 and 1981 to approximately three percent per year between 1981 and 1984.[3] In addition, the study found that black infants nationwide continue to die at nearly twice the rate of white infants.[4] By 1983, the black/white infant mortality gap had widened to a point experienced in only one other year since 1940 (1964).[5]

Declining International Standings

As a result of the slowdown in progress, the United States has plummeted in its international ranking for infant mortality. Ranked sixth in infant mortality among industrialized countries during the 1950s, it is currently in a tie for 18th behind such countries as Finland, Japan, Sweden, France, Canada, Hong Kong, and Spain. Comparing the U.S. rate of decline in infant mortality to those of 19 other industrialized nations with comparable standards of living and reliable vital statistics, the Children's Defense Fund (CDF) found that 18 of the other 19 nations examined achieved greater rates of improvement during the past three and a half decades than did the United States. (The only country that did worse was Australia).[6]

These international comparisons provide strong evidence against the notion that the slowdown in progress toward lowered infant mortality is due to the United States nearing a "lowest possible rate." Several nations with lower rates have continued to make greater progress than the U.S. (Table 1 presents the infant mortality rates and rates of progress achieved by several industrialized nations.)

Rural Trends

In Public Voice's 1986 report on rural nutrition and health problems, aggregate county infant mortality data from the 85 poorest rural counties in the United States were collected and analyzed. That study found that the gap between infant mortality rates in the 85 poorest rural counties and the rest of the nation increased by 32 percent between 1981 and 1983. And by 1983, rural poor counties experienced a 46.4 percent higher rate than the rest of the nation[7].

The increased infant mortality rate experienced by rural poor black residents was found to be largely responsible for the overall increase in the rural poor county IMR, <u>demonstrating that among the rural poor it was blacks who primarily experienced the deterioration in infant health status.</u>[8]

TABLE 1: INFANT MORTALITY RATES (1950-1985) SELECTED COUNTRIES

Country	1950-1955		1955-1960		1960-1965		1965-1970		1970-1975		1975-1980		1980-1985		% Change 1950-55 to 1980-85
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	
Australia	24	(4)	21	(5)	20	(6)	18	(9)	17	(14)	12	(10)	10	(12)	-58
Belgium	45	(14)	35	(14)	27	(14)	23	(16)	19	(18)	13	(12)	11	(17)	-76
Canada	36	(11)	30	(11)	26	(13)	21	(11)	16	(9)	12	(10)	9	(9)	-75
Denmark	28	(8)	23	(6)	20	(6)	16	(6)	12	(2)	9	(2)	8	(5)	-71
Finland	34	(10)	25	(9)	19	(5)	15	(5)	12	(2)	9	(2)	6	(1)	-82
France	45	(14)	33	(12)	25	(11)	21	(11)	16	(9)	11	(9)	9	(9)	-80
German Dem. Rep.	58	(18)	44	(18)	31	(18)	21	(11)	17	(12)	13	(12)	11	(17)	-81
Germany, Fed. Rep.	48	(16)	37	(15)	28	(16)	23	(11)	22	(20)	15	(8)	11	(17)	-77
Hong Kong	79	(20)	54	(20)	33	(19)	23	(16)	17	(12)	13	(12)	10	(12)	-87
Iceland	21	(2)	17	(1)	17	(3)	13	(1)	12	(2)	9	(2)	6	(1)	-71
Ireland	41	(12)	34	(13)	28	(15)	23	(16)	18	(16)	15	(18)	10	(12)	-76
Japan	51	(17)	37	(15)	24	(10)	16	(6)	12	(2)	9	(2)	6	(1)	-88
Luxembourg	43	(13)	37	(15)	29	(17)	21	(11)	16	(9)	13	(12)	9	(9)	-79
Netherlands	24	(4)	19	(3)	16	(2)	14	(3)	12	(2)	10	(7)	8	(5)	-67
Norway	23	(3)	20	(4)	17	(3)	14	(3)	12	(2)	9	(2)	8	(5)	-65
Spain	62	(19)	51	(19)	42	(20)	33	(20)	21	(19)	16	(20)	10	(12)	-84
Sweden	20	(1)	17	(1)	15	(1)	13	(1)	10	(1)	8	(1)	7	(4)	-65
Switzerland	29	(9)	23	(6)	20	(6)	17	(8)	13	(8)	10	(7)	8	(5)	-72
United Kingdom	28	(6)	24	(8)	22	(9)	19	(10)	17	(14)	14	(16)	10	(12)	-64
United States	28	(6)	26	(10)	25	(11)	22	(16)	18	(16)	14	(16)	11	(17)	-61

(Rates are rounded to the nearest whole number)
Source: United Nation's Children's Fund

Children's Defense Fund, The Health of America's Children, 1987, p. 8.

Numerous factors account for the high rates of infant mortality in the United States and for the failure to reduce these rates at the same pace achieved by other industrialized nations. This report examines data trends for two key factors:

1)high rates of low birthweight: low birthweight rates are a particularly important indicator of the nutritional status and overall health status of women prior to and during pregnancy. It is the most significant of many causes associated with infant mortality;

2) inadequate prenatal care; a factor that distinguishes the U.S. from virtually all other industrialized nations and many developing ones is the lack of access to prenatal health care, including nutritional counseling, supplementation and other critical maternity services.

Another variable that impacts critically upon the status of infant health among the rural poor is **maternal malnutrition**. Therefore a review of current research examining patterns of dietary consumption and nutritional status among this group is also presented.

Finally, gaps in medical insurance coverage and lack of access by the rural poor to health care and nutrition assistance programs are also presented.

Low Birthweight Rates

Definition: Low birthweight (LBW)= Infants weighing less than 2,500 grams (5.5 pounds) at birth. The LBW rate is the number of LBW infants per 100 live births.

Low birthweight infants account for approximately two-thirds of all infant deaths in the United States and continue to occur at extremely high rates nationwide. In the nation's impoverished rural areas, these rates are actually on the rise.

Infants born low in birthweight are nearly 40 times more likely to die during their first four weeks of life. Although less than 7 percent of all U.S. births are low birthweight, two-thirds of all deaths in the first four weeks of life occur among these infants.[9]

Low birthweight births involve serious economic as well

as social costs for a nation. Each low birthweight infant costs an average $13,616 (1984 dollars) for initial hospitalization; of the approximately 92 percent of low birthweight infants who survive their first year, nearly 20 percent suffer long-term disability and, in each subsequent year of life, require an additional $1,405 in medical care alone. The special social, educational and long-term care needs of each disabled child over the course of a lifetime is estimated to cost $122,854.[10]

National Trends

The United States 1985 LBW rate of 6.8 percent rates poor among industrialized nations. According to the World Health Organization, the United States, with a rate of 6.9%, ranked 17th in 1982 (the most recent year for which international low birthweight comparisons were available at the time of this study). Contributing to the national problem is the high rate of teenage childbearing in the U.S. In 1985, 12.7 percent of all births were to teens; these infants were 1.4 times more likely than all infants to be low birthweight[11]. Access to prenatal care is especially critical for teenage mothers. Additionally, in the United States teenage mothers are far less likely to receive prenatal care than are mothers beyond their teen years.[12]

Both the Children's Defense Fund and the Department of Health and Human Services project that the nation will not meet the Surgeon General's overall objective, which states that by 1990 low birthweight babies should not constitute more than 5 percent of all live births and in no county or racial or ethnic subgroup of the population should more than 9 percent of all live births be low birthweight.[13] (The 1985 rate among blacks was 12.4 percent.)

Rural Trends

In Public Voice's original study, the rural poor county low birthweight rate was found to be 8.7 percent in 1983, compared to 6.8 percent for the rest of the nation. And rates in these counties rose consistently between 1980 and 1983[14]. The disparity in LBW rates between the poorest rural counties and the rest of the U.S. increased by 34 percent between 1980 and 1983.

The rural poor county LBW rate, which averaged 8.6 percent during the 1976-1980 period, reached a low of 8.21 by 1980. This trend indicated that the late 1970s were years of declining low birthweight rates in rural poor counties. However, a reversal in the trend

occurred between 1980 and 1981. By 1982, the incidence of low birthweight had already risen beyond 1976-1980 levels--and the increase persisted into 1983. These findings demonstrated that the observed worsening trends experienced in the early 1980s represented a reversal of the improving trend achieved in rural poor counties during the 1970s.

Poor Nutritional Status Among the Rural Poor
Representative Leon Panetta (D-CA) Chairman of the House Agriculture Nutrition Subcommittee, describes the recent slowdown in progress toward lowering rates of infant mortality and low birthweight as "the most shocking evidence of our failure to solve the problem of hunger and malnutrition in the United States."[15]

A growing body of research has found that the nutritional status of the rural poor, especially rural poor women, is far below acceptable levels.[16] America's rural poor consume diets grossly deficient in numerous essential nutrients. Inadequate consumption of vitamins A and C, iron and calcium appear to be the most prevalent dietary inadequacies among this population. The studies further identify infrequent consumption of vitamin A and vitamin C rich fruits and vegetables as the principal cause of their inadequate consumption of these two nutrients.

The rural poor also experience a high prevalence of abnormally low circulating nutrient levels in the body, especially of Iron and Vitamin A--indicating severely compromised nutritional status with regard to these nutrients.

Perhaps even more startling, examination of data from the Department of Health and Human Services' NHANES II survey found that **rural poor children were two and a half times more likely to be below the fifth percentile for height-for-age (a sign of growth stunting) than non-poor children nationally.** Growth stunting is an important indicator of chronic undernutrition.[17]

Despite their greater level of poverty and poorer nutritional status, they are less likely to receive benefits from most food assistance programs than their urban counterparts according to USDA and Census Bureau data. This phenomenon was true for Food Stamps, School Lunches, and Summer Feeding Programs for children.[18]

The Link Between Nutrition and Low Birthweight
Numerous studies have demonstrated that improved maternal nutrition during pregnancy decreases the risks

of having low birthweight births. Research conducted by the National Center for Health Statistics (NCHS) concluded that a low weight gain during pregnancy is associated with increased risk of low birthweight. This study as well as several others have demonstrated the direct link between malnutrition, low birthweight and infant mortality.[19]

Data from the NCHS's Collaborative Perinatal Study found that women who gained less than 14 pounds during pregnancy were four times as likely to give birth to a low birthweight infant than were mothers who gained between 30 and 35 pounds. This finding was echoed by the National Academy of Science in its publication titled Preventing Low Birthweight. The Academy concluded that good nutrition exerts an important positive influence on birthweight.[20]

Put simply, a pregnant mother can only support the optimal growth of her fetus if her own nutritional status is adequate.[21]

Inadequate Prenatal Care

Definition: Inadequate Prenatal Care= births to women who received either no prenatal care or who began receiving care during their third trimester of pregnancy.

Adequate and early prenatal care is a critical component in determining birth outcome. Adequate prenatal care reduces the chance that individuals, families and society will have to bear the emotional and financial costs of low birthweight or other negative birth outcomes.

However, despite the proven efficacy of prenatal care, the federal commitment to ensuring that pregnant women in America have access to such care appears to have declined in recent years. In her testimony before the House Select Committee on Hunger, Children's Defense Fund President Marion Wright Edelman summarized the problem as follows:

"With the exception of South Africa, the United States stands alone among industrialized nations in its failure to assure pregnant women access to prenatal and delivery services through either a public health service or universal health insurance. Our public maternity policies lag far behind those of 75 other

nations who ensure the provision of basic health and social supports during pregnancy and early childhood, such as medical and nutritional care and some form of income support or protection ..."[22]

A recent cost-benefit study of prenatal care found that every dollar spent on prenatal care saves more than three dollars in the first year of an infant's life alone by reducing the need for expensive hospital stays. Furthermore, over the entire lifetime of a child, every dollar spent on prenatal care was found to save an estimated $11 in medical expenses because of the decreased likelihood of permanent birth-related disabilities.[23]

Consensus exists among maternal and child health experts that good prenatal care is a much less costly solution to reducing infant mortality than the elaborate technologies now available to save premature infants. Timely, quality prenatal care can prevent many low birthweight births at a fraction of the cost of neonatal intensive care.

National Trends

The proportion of infants born to women who received late or no prenatal care has increased each year since 1980. By comparison, between 1969 and 1979 the percentage of pregnant women receiving late or no care in pregnancy declined by 37 percent.[24]

The Department of Health and Human Services predicts that the nation will fail to meet the Surgeon General's goal for 1990, which states that 90 percent of all pregnant women should obtain prenatal care within the first three months of pregnancy. In fact, no state will reach that goal at current rates of progress.[25]

Rural Trends

Access to adequate, quality prenatal care is a particular problem in rural areas. Health care services continue to be limited or entirely unavailable in many geographically isolated areas.

LIMITED AVAILABILITY OF HEALTH SERVICES IN RURAL AMERICA

In a special rural infant health project report supported by the Robert Wood Johnson Foundation, Dr. Warren M. Crosby noted several critical barriers facing rural women in obtaining medical services as well as the often poor quality of the services that do exist. He noted that, in many rural communities, hospitals are

functioning at virtually the level of a quarter-century ago.[26]

In 1976, some 495 U.S counties were without a community hospital. While there are more community hospitals per capita in nonmetro areas than metro, these hospitals are generally significantly smaller. The result is that there are more hospital beds per person in metropolitan than in nonmetropolitan areas, and nonmetro hospitals are generally older, less likely to be accredited, and lacking in specialized services.

The American Hospital Association reports that the assets per bed for metro hospitals are $39,998 compared with $26,804 for nonmetro hospitals--a 50 percent gap. While this disparity is serious, it does not adequately reflect the large rural-urban differences in distribution of physicians, which is far greater. Rural areas have become increasingly less attractive for doctors choosing places to practice.[27] Impoverished rural counties fare even worse. In addition, the phasing out of the National Health Service Corps program, in which medical personnel were placed in Medically Under-served Areas (MUAs), has further reduced the availability of medical care for the rural poor.

Budget Cuts in Critical Programs

Further reducing access to the limited health services available in poor rural areas, funding for maternal and child health suffered serious cutbacks during the early 1980s. This occuring at a time of rapidly increasing rural poverty.

In this section we examine funding trends in the major programs that provide health care or medical coverage to pregnant women and their infants--focusing on programs that are especially critical to the rural poor. We will also discuss the overall inadequacy of health care coverage and access.

A recent Congressional Research Service report on funding levels of government programs found that virtually the entire spectrum of programs providing medical services or support to pregnant women and their infants underwent sharp reductions in funding between 1980 and 1982[28]. The following pages provide a brief description of the role played by several of these programs in reducing infant mortality and negative birth outcomes, as well as the funding cuts they have experienced in the 1980s.

Community and Migrant Health Centers

One particularly important source of maternal and child health access in rural America that has undergone severe cuts are community and migrant health centers. Begun in 1965 and expanded considerably since that time, the federally supported program of community and migrant health centers serves a critical role in providing increased access to quality health care for low-income and uninsured families.

A primary target population for the health centers is persons most likely to lack access to health services due to geographic isolation, absence of providers, or lack of sufficient financial resources. While centers also exist in medically underserved urban areas, approximately 60 percent of the health centers that receive support from the Community and Migrant Health Center Program are located in rural areas of the country.

Of the six million individuals who receive services each year from these centers, about 60 percent are below the federal poverty level, and 35 percent have incomes between 100 percent and 200 percent of the poverty level.[29] Numerous studies have demonstrated that the centers are effective in reducing the incidence of infant mortality, as well as in addressing other health care needs.

Funding

While appropriation levels for community and migrant health centers have increased in recent years, a report by the Office of Technology Assessment found that, after adjusting for inflation, funding levels for the program were actually cut by 14 percent between 1978 and 1986.

Title V Maternal and Child Health Services Block Grant

With the enactment in 1935 of Title V of the Social Security Act, Congress sought a program to ensure the health of all mothers and children, particularly those residing in rural areas and suffering from poverty.

The Title V MCH block grant is the product of a 1981 amendment to consolidate several programs providing maternal and child health services into a single "block" for allocation purposes.

Funding

A serious funding problem created in 1981 continues to hamper states' ability to achieve the goals of the program. This setback occurred in fiscal year 1982, the

year after the Title V programs were consolidated into the block. At that time, funding was cut by approximately 18 percent from the previous year's level. Despite increases in the numbers of poor and low-income women and children, in real dollars the 1988 Title V appropriation remains 12.4 percent below the 1980 level.

The WIC Program

The Supplemental Feeding Program for Women, Infants, and Children (WIC) is an especially critical program for reducing the risks of a troubled pregnancy or low birthweight infant. The WIC program involves a three-part intervention; supplemental food, nutrition counseling and better access to prenatal care through close collaboration with a primary medical care provider.

In rural areas the program is doubly important, as it assists low-income rural mothers in obtaining and initiating timely prenatal care. The goal of the program is to improve pregnancy outcome as well as infant and child health.

Participation and funding

Because WIC is not an entitlement program, the government is not obligated to provide program benefits to all those who meet WIC eligibility requirements. As a result, less than 40 percent of women and children who meet the income eligibility requirements participate in the program. According to the General Accounting Office, approximately 10.5 million people were income eligible in 1984.

The program recently received a modest increase in funding over current services for fiscal year 1989. Although the increase was only about one-third that specified in the Budget Resolution, it will help this cost effective program serve approximately 100,000 addition women, infants, or children.

Health Care Coverage Among the Rural Poor

The number of Americans who had no health insurance increased by one-third, or nine million, between 1978 and 1984. During that period there was also an increase of 3.1 million poor children who were not covered by any type of health insurance. Despite this increase in need, the number of children receiving Medicaid benefits declined by more than 400,000 from 1978 to 1985.[30]

A September 1987 General Accounting Office (GAO) study outlined the serious consequences both for women who depend on Medicaid and those with no coverage. The GAO found that 63 percent of Medicaid recipients and uninsured women receive insufficient prenatal care.[31]

Medicaid

The Medicaid program provides health insurance for low-income households nationwide. However, unlike Medicare, which provides virtually universal health coverage to the elderly without regard to income, eligibility for the Medicaid program is based upon strict income and family structure requirements. Subject to federal requirements, states administer the program and wield significant discretion in determining program eligibility. Millions of low-income and impoverished households are excluded from Medicaid as a result.

The extremely low income limit determining eligibility for Medicaid keeps a large proportion of the poor from receiving health coverage provided by the program. For example, in more than half the states, households comprised of a woman and two children, in which the mother has a full time, minimum wage job and earns two-thirds the poverty threshold, are ineligible for the program. According to a recent report by the Children's Defense Fund[32], restrictive categorical and financial eligibility requirements reduced the proportion of the poor and near-poor covered by the program from 65 percent in 1975 to only 46 percent by 1986.

In addition to the strict income eligibility requirement of the program, the other key barrier to participation is the ineligibility of two-parent households. In the following 18 states, households with two parents are ineligible for the program: Alabama, Alaska, Arizona, Arkansas, Colorado, Idaho, Indiana, Mississippi, Nevada, New Hampshire, New Mexico, North Dakota, South Dakota, Tennessee, Texas, Utah, Virginia, and Wyoming.

<u>Under-utilization by the Rural Poor</u>

The two principal eligibility criteria discussed above result in a disproportionate under-utilization of the program by the rural poor. This gap is due to several key demographic differences between the rural poor and the urban poor.

The rural poor population includes proportionately more two-parent families than the urban poor population. In fact, the percentage of female-headed households is

nearly two times greater among central city poor than among the rural poor.[33] In nearly half of the states, Aid to Families with Dependent Children (AFDC) benefits are provided only to single parent families. Because Medicaid requirements are in most cases based on AFDC eligibility, two parent, low-income families are often excluded from health care assistance. As a result, in many states, particularly those with large numbers of rural poor, rural families are categorically denied Medicaid benefits.

Serious inequities between rural and urban participation levels in AFDC have been acknowledged since the 1970s. Studies analysing the magnitude of the disparity found that, while 44.75 percent of the metropolitan poor received AFDC benefits in 1980, only 19.3 percent of the rural poor received AFDC benefits during that year.[34] The integral link between AFDC and Medicaid eligibility in most states assures that the same families unable to access AFDC are in most cases unable to access the Medicaid program.

In 1986, Congress gave states the option of extending automatic Medicaid coverage to pregnant women and young children whose family incomes exceed state AFDC eligibility levels but are less than 100 percent of the federal poverty level.[35] However, these improvements have been coupled with erosions in overall Medicaid eligibility standards and in employer-based health insurance for poor children and families.[36]

In addition, the real decreases that have taken place in AFDC benefit levels throughout the 1980s (benefit levels have not been indexed to keep pace with inflation since 1981) have undermined these expansions in Medicaid. By 1986, some 32 states maintained AFDC eligibility levels that were less than 50 percent of the federal poverty level.[37] Moreover, eligibility restrictions imposed on the AFDC program by Congress since 1981 have removed virtually all working poor families and many other families from the program. As the rural poor are more likely to participate in the working force than the urban poor, they are again disproportionately affected by these regulations.

Infant Mortality Initiative

One newly-created program aimed at countering these disturbing trends in infant health is the Infant Mortality Initiative established by Congress in 1987.

The fiscal year 1988 appropriation was $19,148,000 for Community Health Centers and $957,000 for Migrant Health Centers to initiate a comprehensive perinatal care program and provide improved and expanded maternal, infant, and child health service designed to reduce infant mortality.

To implement this initiative, supplemental grants will be awarded to existing community and migrant health centers to develop and expand perinatal systems designed to reduce low birthweight, enhance the provision of primary and supplemental health services, and improve access to needed services for pregnant women and children.

METHODS

In this section of the report, the methods applied throughout this study are described. Data sources and criteria for exclusion of data are presented. This section is followed by the results.

Definitions

Inadequate Prenatal Care: births to women who received either no prenatal care or who began receiving care during their third trimester of pregnancy.

Low Birthweight: live births weighing less than 5.5 pounds (2500 grams).

Infant Mortality Rate: the number of infants who die during their first year of life per thousand live births.

Rural Poor Counties (RPCs): Nonmetropolitan counties in which at least 25 percent of residents were living below the federal poverty threshold in 1979 (1979 is the most current year for which county level poverty data are available. The source of these data is the 1980 Census). Throughout this report the terms "rural" and "nonmetropolitan" are used interchangeably but unless otherwise noted refer to nonmetropolitan.

Data Sources

County Level Natality and Mortality Statistics

The natality and mortality data used in this project are from a number of sources; (1) live births, prenatal care, and low birthweight data are from the National Center for Health Statistics Detailed Natality data files for 1975-1984. 1985 live birth and low birthweight data are from in-house worktables compiled and provided to us by NCHS. (2) Infant Mortality data are from NCHS Detailed Mortality statistics. For years 1975-1982, these data were taken directly from county level compilations of mortality data included in the Area Resource File (ARF), compiled by the Public Health Service. For 1983, 1984 and 1985, infant mortality data were compiled from in-house worktables prepared by NCHS.

The following list of counties and states were included in this examination. In all, 332 counties in 26 states were included:

AK	BETHEL	FL	JEFFERSON	GA	WEBSTER
AK	KOBUK	FL	MADISON	GA	WILCOX
AK	NOME	FL	WASHINGTON	ID	MADISON
AK	WADE HAMPTON	GA	APPLING	ID	OWYHEE
AK	YUKON	GA	ATKINSON	IL	ALEXANDER
AL	BARBOUR	GA	BAKER	IL	PULASKI
AL	BULLOCK	GA	BROOKS	IN	OHIO
AL	BUTLER	GA	BURKE	KY	ADAIR
AL	CHOCTAW	GA	CALHOUN	KY	BATH
AL	CLARKE	GA	CANDLER	KY	BELL
AL	CONECUH	GA	CLAY	KY	BREATHITT
AL	CRENSHAW	GA	CLINCH	KY	CASEY
AL	DALLAS	GA	CRISP	KY	CLAY
AL	GREENE	GA	DODGE	KY	CLINTON
AL	HALE	GA	DOOLY	KY	CUMBERLAND
AL	LOWNDES	GA	EARLY	KY	ELLIOTT
AL	MACON	GA	ECHOLS	KY	ESTILL
AL	MARENGO	GA	EMANUEL	KY	FULTON
AL	MONROE	GA	EVANS	KY	HARLAN
AL	PERRY	GA	GRADY	KY	HART
AL	PICKENS	GA	GREENE	KY	JACKSON
AL	PIKE	GA	HANCOCK	KY	KNOTT
AL	SUMTER	GA	JEFFERSON	KY	KNOX
AL	WILCOX	GA	JENKINS	KY	LAWRENCE
AR	BRADLEY	GA	JOHNSON	KY	LEE
AR	CHICOT	GA	LANIER	KY	LESLIE
AR	DESHA	GA	MACON	KY	LETCHER
AR	LAFAYETTE	GA	MARION	KY	LEWIS
AR	LEE	GA	MC INTOSH	KY	LINCOLN
AR	LINCOLN	GA	MILLER	KY	MAGOFFIN
AR	MISSISSIPPI	GA	MITCHELL	KY	MARTIN
AR	MONROE	GA	PULASKI	KY	MC CREARY
AR	NEWTON	GA	QUITMAN	KY	MENIFEE
AR	PHILLIPS	GA	RANDOLPH	KY	METCALFE
AR	ST. FRANCIS	GA	SCHLEY	KY	MONROE
AR	SEARCY	GA	SCREVEN	KY	MORGAN
AR	STONE	GA	STEWART	KY	OWSLEY
AR	WOODRUFF	GA	TALIAFERRO	KY	POWELL
AZ	APACHE	GA	TATTNALL	KY	ROCKCASTLE
AZ	NAVAJO	GA	TAYLOR	KY	RUSSELL
CO	CONEJOS	GA	TELFAIR	KY	WAYNE
CO	COSTILLA	GA	TERRELL	KY	WOLFE
CO	SAGUACHE	GA	TOOMBS	LA	AVOYELLES
FL	DIXIE	GA	TREUTLEN	LA	BIENVILLE
FL	FRANKLIN	GA	TURNER	LA	CATAHOULA
FL	HAMILTON	GA	UNION	LA	CLAIBORNE
FL	HARDEE	GA	WARREN	LA	CONCORDIA
FL	HOLMES	GA	WASHINGTON	LA	EAST CARROLL

LA	EVANGELINE	MS	SUNFLOWER	SC	JASPER
LA	FRANKLIN	MS	TALLAHATCHIE	SC	LEE
LA	MADISON	MS	TATE	SC	MARION
LA	MOREHOUSE	MS	TUNICA	SC	MCCORMICK
LA	NATCHITOCHES	MS	WASHINGTON	SC	ORANGEBURG
LA	POINTE COUPE	MS	WAYNE	SC	WILLIAMSBURG
LA	RED RIVER	MS	WILKINSON	SD	BENNETT
LA	RICHLAND	MS	WINSTON	SD	BUFFALO
LA	ST. HELENA	MS	YAZOO	SD	CAMPBELL
LA	ST. LANDRY	MT	CARTER	SD	CHARLES MIX
LA	TANGIPAHOA	MT	PETROLEUM	SD	CLARK
LA	TENSAS	MT	PRAIRIE	SD	CORSON
LA	WEST CARROLL	NC	BERTIE	SD	DEWEY
LA	WEST FELICIA	NC	BLADEN	SD	DOUGLAS
LA	WINN	NC	COLUMBUS	SD	FAULK
MO	HICKORY	NC	GREENE	SD	GREGORY
MO	MISSISSIPPI	NC	HALIFAX	SD	HAND
MO	NEW MADRID	NC	HYDE	SD	HANSON
MO	OREGON	NC	MADISON	SD	JACKSON
MO	OZARK	NC	NORTHAMPTON	SD	LYMAN
MO	PEMISCOT	NC	SWAIN	SD	MC PHERSON
MO	RIPLEY	NC	TYRRELL	SD	MELLETTE
MO	SHANNON	NC	WARREN	SD	MINER
MO	WAYNE	ND	GRANT	SD	ROBERTS
MS	ADAMS	ND	KIDDER	SD	SANBORN
MS	AMITE	ND	ROLETTE	SD	SHANNON
MS	ATTALA	ND	SIOUX	SD	ZIEBACH
MS	BOLIVAR	NE	BLAINE	TN	CLAIBORNE
MS	CARROLL	NE	GREELEY	TN	CLAY
MS	CHOCTAW	NE	LOGAN	TN	COCKE
MS	CLAIBORNE	NM	GUADALUPE	TN	FAYETTE
MS	COAHOMA	NM	MCKINLEY	TN	FENTRESS
MS	COPIAH	NM	MORA	TN	GRUNDY
MS	COVINGTON	NM	RIO ARRIBA	TN	HANCOCK
MS	FRANKLIN	NM	ROOSEVELT	TN	HARDEMAN
MS	HOLMES	NM	SAN MIGUEL	TN	HAYWOOD
MS	HUMPHREYS	NM	SOCORRO	TN	JOHNSON
MS	ISSAQUENA	NM	TAOS	TN	LAKE
MS	JASPER	OK	ADAIR	TN	MORGAN
MS	JEFFERSON	OK	ATOKA	TN	OVERTON
MS	JEFFERSON DA	OK	CHOCTAW	TN	PICKETT
MS	KEMPER	OK	COAL	TN	SCOTT
MS	LEAKE	OK	HARMON	TX	BRISCOE
MS	LEFLORE	OK	JOHNSTON	TX	BROOKS
MS	MARSHALL	OK	LATIMER	TX	CALDWELL
MS	NOXUBEE	OK	PUSHMATAHA	TX	CASTRO
MS	OKTIBBEHA	SC	ALLENDALE	TX	COCHRAN
MS	PANOLA	SC	BAMBERG	TX	COLLINGSWORT
MS	PERRY	SC	CLARENDON	TX	CROSBY
MS	PIKE	SC	COLLETON	TX	DICKENS
MS	QUITMAN	SC	DILLON	TX	DIMMIT
MS	SCOTT	SC	EDGEFIELD	TX	DUVAL
MS	SHARKEY	SC	HAMPTON	TX	EDWARDS

TX	FLOYD	TX	MARION	TX	VAL VERDE
TX	FRIO	TX	MAVERICK	TX	WILLACY
TX	GRIMES	TX	MENARD	TX	ZAPATA
TX	HALL	TX	MOTLEY	TX	ZAVALA
TX	HOUSTON	TX	PRESIDIO	VA	CHARLOTTE
TX	HUDSPETH	TX	REAL	VA	LEE
TX	KENEDY	TX	RED RIVER	WV	CALHOUN
TX	KINNEY	TX	ROBERTSON	WV	CLAY
TX	LA SALLE	TX	STARR	WV	WEBSTER
TX	LYNN	TX	SWISHER		

Variables used from the NCHS natality files include:

-County identifier (NCHS county code)
-year
-race of mother (total races, white, black)
-total births
-number of births with weight data missing
-number of low weight (<2500 grams) births
-number of births whose mother did not receive prenatal care
-number of births whose mother received prenatal care starting in the third trimester
-number of births with prenatal care data missing
-number of births with prenatal care data not reported

Poverty Data

Poverty data used in the report are from the Census Bureau. For county level poverty data, the 1980 Census was used. For more current poverty statistics, the data are from each respective year's Current Population Survey.

Analysis of Mortality and Natality Statistics

County level data were collected for live births, prenatal care, low birthweight births, and infant mortality. Data were included from all counties that met the criteria for inclusion in the study (i.e., a nonmetropolitan county with at least 25 percent of residents in poverty).

Missing and Unreported data

Numerous counties failed to meet necessary data requirements for this analysis and therefore were excluded from specific analyses. This exclusion was usually the result of an excessive proportion of a county's data either "missing" or "unreported". To standardize the criteria for determining exclusion or inclusion in the analyses, the following rules were applied:

For each county-year-race-age cell;
(1) If more than 50 percent of the low birthweight or infant mortality data was missing, that variable was excluded from the analysis.

(2) If more than 50 percent of the prenatal care data was missing or if more than 90 percent of the prenatal care data was either missing or not reported, the percent births with poor prenatal care variable was excluded.

To address missing or unreported data, percentages were calculated using the following formula:

$$\text{Percent births with X} = \frac{\text{Number of births with X}}{\text{Total births - number of births with X data missing or not reported}}$$

Excluded Data

For numerous other counties, data for a given variable or racial group were unavailable entirely. Following is a list of variables, by state, year, and racial group for which data were either not available or did not meet the conditions described above:

Prenatal care data from New Mexico were not available until 1980 or from Alaska until 1978 for all three racial categories (total races, whites, and blacks); data from Alaska and 26 counties did not report sufficient statistics for one or more of the variables and were therefore excluded from the aggregate rural poor county analyses for all years in order to standardize the study's time trend analyses. These excluded counties were:

State	Counties
Alabama	Bullock, Lowndes, Marengo
Georgia	Clay, Quitman, Teliaferro, Warren
Kentucky	Estill, Magoffin
Louisiana	Tensas
Mississippi	Humphreys, Issaquena, Tunica, Wilkinson
Missouri	Shannon
Nebraska	Blaine, Greely
South Carolina	Bamberg, McCormick
South Dakota	Campbell, Hand, Hanson, Miner
Tennessee	Haywood
West Virginia	Calhoun, Clay

In addition, in rural poor counties of several states included in the analysis, such as Montana, Indiana and Utah, there were very small numbers of black births. Therefore, in the tables presented throughout the report, the appropriate cells are generally marked by N/A, indicating either zero live births or the unavailability of data.

RESULTS

Data Presentation and Analysis

Data are presented in the following order: Infant mortality, low birthweight, inadequate prenatal care. For each variable, data are first presented for all rural poor counties (RPCs) combined, as a single aggregate for total races and for whites and blacks separately. Next, for low birthweight and prenatal care, but not for infant mortality, data are presented by state (e.g., each state's RPCs combined so as to assess individual state RPC trends) for each racial category.

State rural poor infant mortality data are not presented individually in this study because of the unreliability that may result from the small frequencies of events (infant deaths). Whereas infant deaths are measured per thousand live births, low birthweight and inadequate prenatal care are expressed as percentages (per hundred live births), and occur far more frequently. Few states included in this report had sufficient numbers of infant births to provide stable rural poor county infant mortality data.[4]

INFANT MORTALITY (IM)

National Profile of Rural Poor County (RPC) Trends

Infant mortality data from the nation's rural poor counties were combined and a single figure presented for total races, whites and blacks, for each year. Table 2 and Figure 1 present these data as well as those for the entire U.S. for the years 1975-1985.

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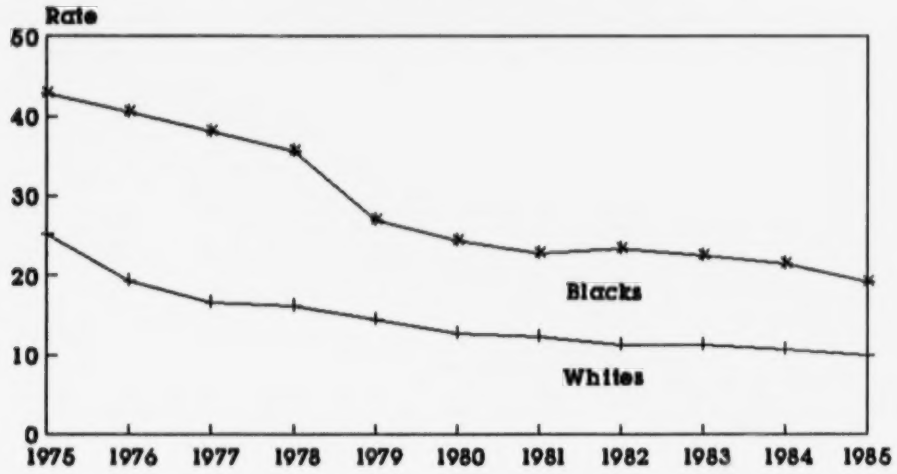
[4] Individual county infant mortality rates can be found in respective state vital statistics books available from each state's Office of Vital Statistics, or can generally be obtained by phone from that office.

TABLE 2: ANNUAL INFANT MORTALITY RATES (1975-1985)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TOTAL RACES											
Rural Poor Counties	33.4	28.2	25.4	24.2	20.2	17.6	16.9	16.0	15.9	14.9	13.6
National	16.1	15.2	14.1	13.8	13.1	12.6	11.9	11.5	11.2	10.8	10.6
WHITES											
Rural Poor Counties	25.2	19.3	16.5	16.1	14.4	12.7	12.3	11.3	11.2	10.7	10.0
National	14.2	13.3	12.3	12.0	11.4	11.0	10.5	10.1	9.7	9.4	9.3
BLACKS											
Rural Poor Counties	42.8	40.5	38.0	35.6	27.0	24.4	22.8	23.3	22.5	21.4	19.2
National	26.2	25.2	23.6	23.1	21.8	21.4	20.0	19.6	19.2	18.4	18.2

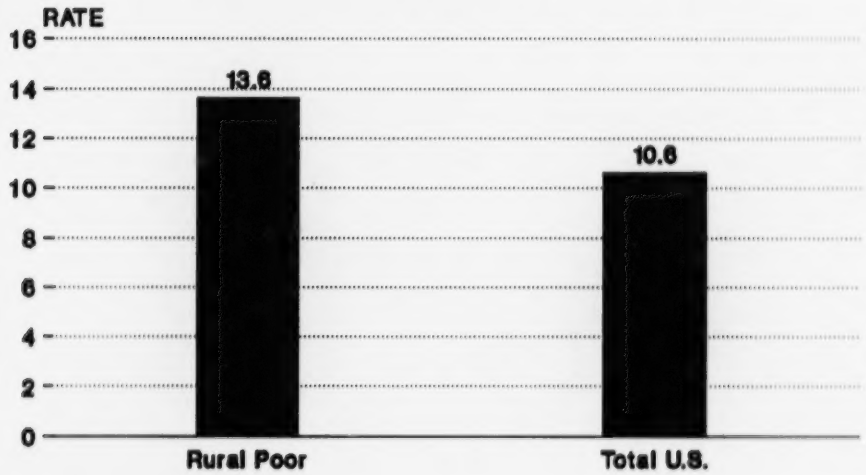
Fig. 1A: Infant Mortality Rates by Race (Rural Poor Counties)



Source: NCHS Mortality Data

These data reveal that while significant progress was achieved in reducing rates of infant mortality throughout the decade, two facts of special concern emerged: 1) a serious slowdown in that progress began between 1980 and 1981 in the counties examined and has persisted since that time, and 2) a significant disparity exists between national rates and those in rural poor counties.

Fig.1B 1985 Infant Mortality Rates (Rural Poor Counties VS Total U.S.)



Source: NCHS Mortality Data

Average Annual Rates of Decline

An important measure widely used in monitoring progress in infant mortality and other health indicators is the annual rate of decline (or increase) in the statistic's rate over a number of years.

The slowdown in progress toward lowering infant mortality in poor rural America that took place during the early 1980s was severe. Comparing five-year rural poor infant mortality improvements during the 1975-1980 period to those of 1980-1985, Table 3 illustrates the dramatic decline in progress that occured.

TABLE 3: DECLINE IN INFANT MORTALITY RATES DURING TWO PERIODS

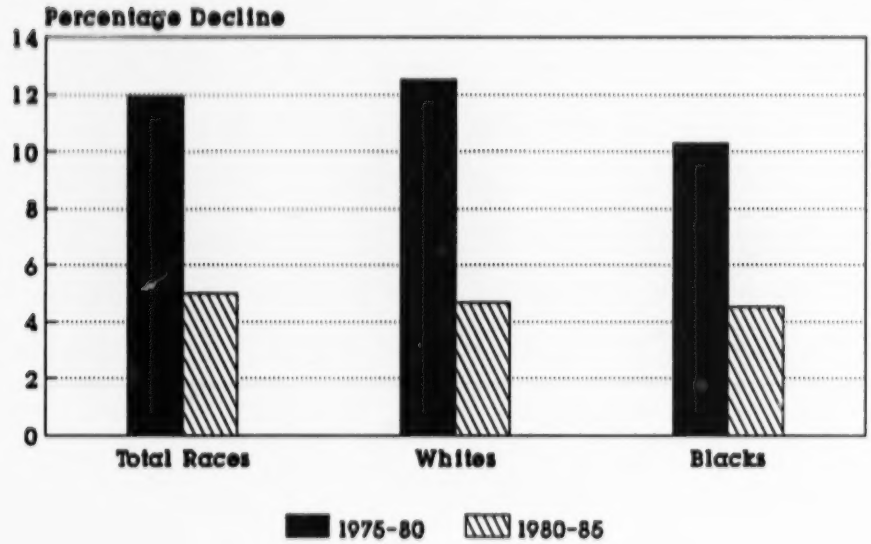
	Rate 1975	Rate 1980	% Decline 1975-1980	Rate 1980	Rate 1985	% Decline 1980-1985
Total	33.4	17.6	**47.3%**	17.6	13.6	**22.7%**
Whites	25.2	12.7	**49.6%**	12.7	10.0	**21.3%**
Blacks	42.8	24.4	**43.0%**	24.4	19.2	**21.3%**

This table shows that rapid improvements in rural poor infant mortality rates were achieved during the second half of the 1970s. However, during the 1980s, rates of decline were halved. This occured in both racial groups.

Whereas Table 3 compares the two periods for their total 5-year decrease in rates, Figure 2 compares and illustrates the <u>average annual</u> rates of progress.

Had the 1980-1985 decline in progress not occured, by 1985, rural poor rates would have been reduced to the same level as national rates.

Fig. 2: Average Rate of Decline in Rural Poor County Infant Mortality Rates



Other significant findings include:

--The 1985 RPC infant mortality rate of 13.6 was over 28 percent higher than the national rate for that year of 10.6.

--While RPC rates fell at an average annual rate of 11.9 percent between 1975 and 1980, the rate of decline decreased to just under 5 percent between 1980 and 1985.

--Among whites, the average annual rate of decline fell from 12.5 percent during 1975-1980 to 4.7 percent between 1980 and 1985.

--Among blacks residing in poor rural counties, the average annual rate of decline fell from 10.3 percent during the 1975-1980 period to less than half that rate, 4.5 percent between 1980 and 1985.

--In 1985 the infant mortality rate among whites and blacks who reside in rural poor counties was significantly higher than among whites and blacks nationally (10.0 vs. 9.3 for whites and 19.2 vs. 18.2 for blacks).

Excess Infant Deaths

One method used to quantify the impact of disparities in rates of disease or mortality (in this case, of infant mortality) involves determining the number of "excess" deaths attributable to a disparity between two different rates. In this section, we calculated the number of infant deaths that occured in rural poor counties in excess of the number that would have occured had rural poor and national rates been equal. This calculation was carried out for the years 1975 to 1985.

These numbers were calculated by applying the national infant mortality rate for each year to the number of babies born to residents of rural poor counties each year. The resulting figure is the number of infant deaths that would have occured in rural poor counties if the rural poor infant mortality rate was the same as the rate for all other infants. The difference between this number and the actual number of deaths is the number of "excess deaths".

TABLE 4: EXCESS INFANT DEATHS (1975-1985)

	# Excess Deaths
Total	6413*
White	1506
Black	2233

*Excess black and white infant deaths do not add up to that of total races for two reasons: 1) exluded are deaths to other non-white racial groups such as Native Americans, Asians, etc.; and 2) the racial composition of rural poor county residents is different from that of the entire country. In rural poor counties, there is a larger proportion of non-whites.

These data demonstrate that the disparity in rates between rural poor infants and infants nationally is significant--resulting in several thousand excess deaths among rural infants since 1975.

It should be noted that, while the largest proportion of excess rural infant deaths occured during the mid to late 1970s, the numbers also underwent consistent and rapid decline during that period. By 1980, the annual number of excess deaths had declined dramatically from their 1975 levels. However, throughout the 1980s and up to 1985, progress fell to a standstill. In 1985, the numbers of excess rural infant deaths underwent the first significant decline since 1980. Whether the improvement that occured in 1985 represents a one-year fluctuation or the beginning of a significant trend will become more apparent when 1986 data are released by NCHS.

LOW BIRTHWEIGHT (LBW)

National Profile of Rural Poor County (RPC) Trends

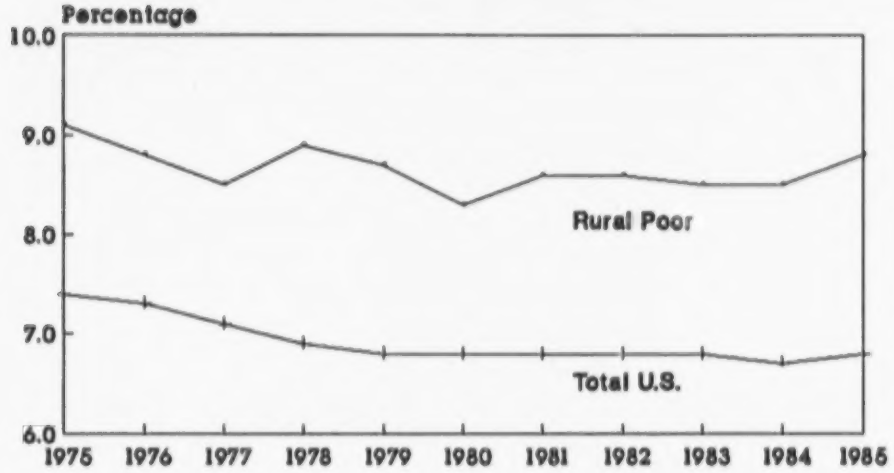
In this analysis, low birthweight data from the nation's rural poor counties were combined to form an aggregate rural poor county rate for each year, 1975-1985. Table 5 and Figures 3-5 present these data as well as those for the entire United States for the years 1975-1985.

TABLE 5: ANNUAL LOW BIRTHWEIGHT RATES (1975-1985)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TOTAL RACES											
Rural Poor Counties	9.1	8.8	8.5	8.9	8.7	8.3	8.6	8.6	8.5	8.5	8.8
National	7.4	7.3	7.1	6.9	6.8	6.8	6.8	6.8	6.8	6.7	6.8
WHITES											
Rural Poor Counties	6.8	6.8	6.3	6.7	6.5	5.9	6.3	6.3	6.3	6.3	6.6
National	6.3	6.1	5.9	5.9	5.8	5.7	5.7	5.6	5.6	5.6	5.6
BLACKS											
Rural Poor Counties	12.6	12.3	12.1	12.7	12.2	11.9	12.0	12.3	12.3	12.3	12.6
National	13.1	13.0	12.8	12.8	12.6	12.5	12.5	12.4	12.6	12.4	12.4

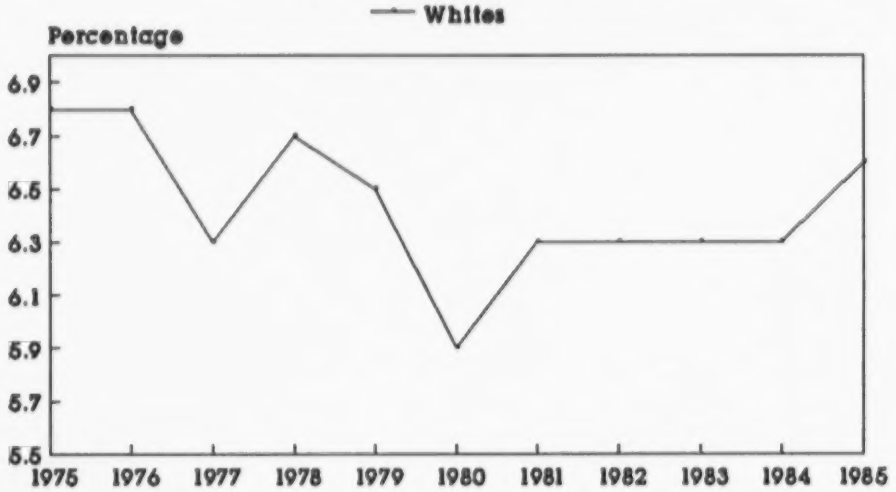
Source: NCHS Natality data

Fig. 3: Annual Low Birthweight Rates Rural Poor Vs Total U.S.



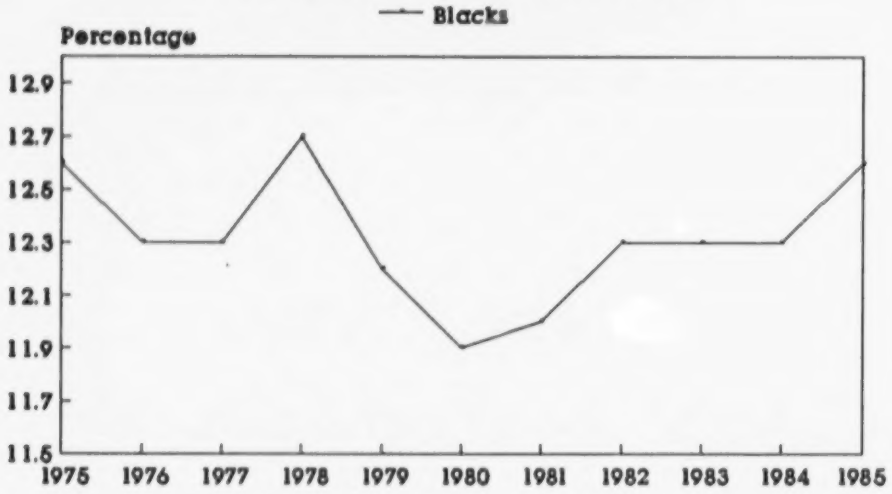
Source: NCHS Natality Data

Fig. 4: Annual Low Birthweight Rates in Rural Poor Counties



Source: NCHS Natality Data

Fig. 5: Annual Low Birthweight Rates in Rural Poor Counties



Source: NCHS Natality Data

These data reveal a particularly disturbing finding; **after several years of steady progress in reducing rates of low birthweight, since 1980 rates have undergone a significant increasing trend. These data present clear evidence that a major reversal in the progress achieved throughout the middle and late 1970s occurred between 1980 and 1981; this reversal has not only continued but has actually accelerated.**

--Other important findings included:

--The 1985 RPC low birthweight rate of 8.8 percent was more than 31 percent higher than the national rate of 6.7 percent for that year.

--Between 1984 and 1985 the rate increased dramatically, undoing the much of the progress achieved during the 1970s.

--Rates among both whites and blacks have undergone significant increases since reaching their low points in 1980.

Table 6 presents a comparison of rural poor county trends during 1975-1980 and 1980-1985.

TABLE 6: COMPARATIVE TRENDS IN RURAL POOR COUNTY LOW BIRTHWEIGHT RATES DURING TWO PERIODS (1975-1980 vs. 1980-1985)

	Rate 1975	Rate 1980	% Decline 1975-1980	Rate 1980	Rate 1985	% Increase 1980-1985
Total	9.1	8.3	**8.8%**	8.3	8.8	**6.0%**
Whites	6.8	5.9	**13.2%**	5.9	6.6	**11.9%**
Blacks	12.6	11.9	**5.6%**	11.9	12.6	**5.9%**

The reversal of the downward (improving) trend that occurred in poor rural America during the early 1980s was severe. This table demonstrates that steady improvements in rural poor low birthweight rates were achieved during the second half of the 1970s. However, during the 1980s rates of decline not only ceased but actually reversed. This reversal occurred among both whites and blacks.

Had the positive trend in RPC low birthweight rates achieved in the 1970s not been reversed, by the mid 1980s several thousand fewer infants would have been born at low birthweight in rural poor America.

State RPC Aggregate LBW Analyses

Low birthweight data for rural poor counties combined at the state level are presented in Tables 7-9.

TABLE 7: LOW BIRTHWEIGHT ANNUAL RATES IN RURAL POOR COUNTIES, BY STATE

Total Races

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
AK	7.3	4.5	5.2	6.4	7.2	6.0	3.7	6.2	4.1	5.6
AL	8.9	9.2	8.8	9.4	8.9	8.6	9.3	8.4	8.6	9.4
AR	10.5	8.6	8.9	9.8	9.0	9.3	9.4	8.6	9.7	8.6
AZ	7.0	6.2	5.9	7.0	6.2	6.3	6.9	5.7	5.5	5.9
CO	14.4	9.3	8.0	11.1	10.2	8.9	12.1	8.6	8.7	10.7
FL	8.4	8.7	8.5	8.7	7.7	6.2	7.7	7.8	7.9	7.6
GA	9.6	9.5	8.9	10.0	9.6	9.1	8.5	9.7	9.2	10.0
ID	6.2	3.4	4.0	5.7	5.4	4.1	5.3	4.7	4.8	6.9
IL	10.6	11.5	7.8	9.0	9.0	6.3	12.2	11.7	10.8	12.1
IN	6.1	4.3	5.9	7.2	8.6	7.2	5.1	2.5	6.2	3.9
KY	7.7	7.2	7.1	6.7	6.8	6.5	7.5	7.0	6.9	7.3
LA	9.8	9.3	9.7	9.8	9.0	8.8	9.4	9.1	9.4	9.1
MD	10.0	8.3	8.1	9.5	7.7	7.4	8.1	9.5	8.4	8.3
MS	10.0	10.5	9.6	10.3	10.1	9.7	9.8	10.1	10.0	9.7
MT	5.7	3.7	5.7	6.7	7.5	3.3	6.7	1.8	7.8	3.6
NC	8.8	10.0	8.9	9.6	9.1	9.5	8.8	8.7	9.1	8.8
ND	5.1	6.1	9.2	7.8	6.6	4.7	6.1	4.9	4.9	6.7
NE	4.0	8.3	1.2	3.9	2.0	12.4	3.8	2.1	1.9	5.4
NM	9.2	9.8	8.9	9.6	8.2	8.9	9.4	9.1	7.6	8.2
OK	8.0	7.6	6.3	6.7	6.3	5.9	6.3	7.7	7.2	6.9
SC	10.8	10.8	10.7	10.9	11.3	10.2	10.5	11.1	10.3	10.5
SD	5.3	4.9	5.4	5.5	4.4	4.7	5.3	4.6	5.7	4.3
TN	8.4	8.4	7.7	8.5	8.2	7.3	6.7	7.8	8.1	8.2
TX	6.4	7.0	7.0	7.3	7.2	6.6	6.3	6.3	6.5	6.3
UT	3.5	6.3	5.5	7.0	7.2	6.2	6.0	5.4	4.7	5.3
VA	8.5	7.3	6.2	6.6	8.8	9.1	8.3	11.5	7.0	7.9
WV	8.1	8.3	4.5	7.5	8.9	7.4	5.1	7.6	8.7	5.0

TABLE 8: LOW BIRTHWEIGHT ANNUAL RATES IN RURAL POOR COUNTIES, BY STATE

Whites

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
AK	9.3	6.5	2.7	8.9	1.8	5.6	2.3	4.4	3.7	6.1
AL	4.5	5.5	4.7	5.7	5.5	4.1	5.0	4.1	5.9	5.1
AR	7.5	4.9	6.1	6.6	7.1	6.5	6.6	5.9	6.6	5.5
AZ	7.3	8.0	6.0	7.7	7.7	6.1	6.0	4.5	6.1	7.1
CO	14.2	9.4	8.0	11.2	10.2	8.5	12.1	8.7	8.7	10.4
FL	6.7	5.9	5.6	7.6	5.9	5.1	7.1	5.7	7.2	5.0
GA	6.1	5.3	5.3	6.5	6.0	6.0	5.1	6.0	5.2	6.0
ID	6.3	3.5	4.0	5.8	5.3	4.2	5.4	4.7	4.9	6.9
IL	5.6	10.9	6.0	4.6	4.9	4.3	8.5	6.1	6.7	6.2
IN	3.1	4.3	5.9	7.4	8.6	7.2	5.1	2.5	6.3	4.0
KY	7.7	7.1	7.0	6.5	6.7	6.4	7.4	6.9	6.7	7.1
LA	6.4	6.6	6.6	6.6	5.9	5.7	6.5	6.1	6.0	6.0
MD	8.5	7.0	6.1	7.8	6.2	6.1	6.5	8.4	6.0	6.6
MS	6.1	7.3	5.9	6.6	5.9	5.6	5.7	6.1	5.7	5.7
MT	4.4	2.0	5.8	6.7	7.5	3.4	6.9	1.8	7.9	3.8
NC	6.0	6.9	6.0	5.9	6.3	6.6	5.9	5.5	5.4	5.9
ND	4.9	5.9	10.4	2.9	7.4	0.0	5.4	3.3	4.1	4.1
NE	4.0	8.3	1.2	3.9	2.0	12.5	3.9	2.1	1.9	5.4
NM	10.0	10.7	8.8	10.1	8.5	9.0	10.6	10.0	8.1	9.3
OK	9.0	8.3	5.9	6.3	6.1	5.5	6.0	7.2	7.5	6.7
SC	6.5	6.4	5.4	6.0	7.6	5.8	6.6	6.7	6.2	5.4
SD	3.6	3.5	4.7	5.2	3.6	3.0	3.9	3.0	4.2	2.7
TN	7.5	7.5	6.9	7.6	7.3	6.3	6.0	6.7	7.1	7.5
TX	5.9	6.5	6.3	6.6	6.4	6.1	5.8	5.9	6.0	5.9
UT	1.3	4.9	6.9	7.5	6.5	5.2	5.2	5.7	4.5	6.1
VA	7.9	5.1	5.2	5.2	8.8	8.6	7.1	9.8	6.4	6.7
WV	8.1	8.4	4.5	7.5	8.9	7.3	5.1	7.6	8.7	5.0

TABLE 9: LOW BIRTHWEIGHT ANNUAL RATES IN RURAL POOR COUNTIES, BY STATE

Blacks

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
AK	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0
AL	11.3	11.1	10.9	11.3	10.6	10.9	11.6	10.7	10.1	11.7
AR	13.9	12.5	12.1	13.4	11.0	12.2	12.4	11.6	12.8	11.8
AZ	28.6	12.5	0.0	22.2	11.1	0.0	0.0	18.2	0.0	27.3
CO	N/A	N/A	N/A	N/A	N/A	50.0	N/A	N/A	0.0	0.0
FL	12.6	15.5	15.8	11.4	13.2	9.3	9.2	13.6	9.9	14.1
GA	12.5	12.9	11.9	12.7	12.8	11.8	11.4	12.8	13.0	13.7
ID	N/A	0.0	N/A	0.0	N/A	0.0	0.0	N/A	N/A	0.0
IL	16.7	12.4	10.3	14.4	14.0	8.7	16.8	18.1	16.7	19.3
IN	N/A	N/A	N/A	0.0	N/A	N/A	N/A	N/A	N/A	0.0
KY	10.0	8.2	12.7	14.0	14.5	13.1	12.9	9.9	16.1	14.5
LA	13.4	12.1	13.2	13.6	12.6	12.5	13.0	12.8	13.5	12.8
MD	15.5	13.0	15.9	15.7	13.9	12.7	15.0	14.4	17.4	15.1
MS	12.2	12.4	11.5	12.2	12.3	11.8	11.8	12.2	12.2	11.7
MT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NC	11.5	12.7	12.0	13.0	11.4	12.3	11.4	11.5	12.3	11.6
ND	N/A	N/A	N/A	N/A	N/A	0.0	N/A	0.0	N/A	N/A
NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NM	0.0	11.1	7.1	14.6	25.0	33.3	0.0	16.7	11.8	7.4
OK	11.3	12.5	15.1	9.0	12.7	16.5	13.8	12.5	18.3	12.3
SC	13.0	13.2	13.3	13.3	13.1	12.3	12.2	13.4	12.3	13.1
SD	N/A	N/A	N/A	N/A	N/A	0.0	0.0	0.0	25.0	12.5
TN	11.8	11.7	10.9	11.5	12.3	11.4	9.7	12.6	12.6	11.2
TX	12.5	13.2	15.0	15.5	15.9	13.9	12.2	12.2	12.5	9.7
UT	0.0	0.0	N/A	N/A	0.0	N/A	N/A	N/A	N/A	N/A
VA	10.7	16.3	11.2	13.7	9.1	11.6	15.7	20.8	9.6	14.7
WV	N/A	N/A	0.0	N/A	0.0	50.0	0.0	N/A	0.0	N/A

N/A: Data not available. 0.0 live births or rates greater than 99% (reflecting extremely small numbers of live births) are also indicated by N/A. However, rates of 0.0 in states with small numbers of live births are provided.

Table 10 presents average LBW rates and total live births, by race and by state, for the 1980-1984 period. These data represent the "five-year average" LBW rate for each state's rural poor counties.

TABLE 10: LOW BIRTHWEIGHT RATES IN RURAL POOR COUNTIES, BY STATE, FOR THE 1980-84 PERIOD

(IN DESCENDING ORDER)

Total Races			Whites			Blacks		
	Rate	Total Births		Rate	Total Births		Rate	Total Births
IL	10.5	1802	CO	9.6	1590	CO	25.0	4
SC	10.5	30350	NM	9.3	9532	WV	20.0	5
MS	9.8	79403	VA	7.7	2026	IL	15.8	812
CO	9.7	1602	KY	6.9	40492	OK	15.0	381
GA	9.3	21303	WV	6.8	2518	MD	14.9	1830
LA	9.2	52992	TN	6.7	13990	VA	14.2	388
AR	9.1	24339	MD	6.7	7257	KY	13.4	764
NC	9.0	18761	OK	6.6	4697	LA	12.9	23945
AL	8.9	34610	IL	6.3	983	SC	12.6	20390
VA	8.8	2414	AR	6.2	12368	GA	12.5	11232
NM	8.5	15453	SC	6.1	9828	AR	12.1	11838
MD	8.3	9117	LA	6.1	28918	TX	12.1	2657
TN	7.6	17315	FL	6.0	5599	NM	12.1	91
FL	7.4	7724	AZ	5.9	2693	MS	11.9	52253
KY	7.0	41320	TX	5.9	34247	NC	11.8	9545
OK	6.8	6975	NC	5.9	8399	TN	11.5	3292
WV	6.8	2524	MS	5.8	26765	FL	11.3	2093
TX	6.4	37072	GA	5.7	10024	SD	11.1	18
AZ	6.0	10028	UT	5.3	885	AL	11.0	22656
ND	5.5	2021	ID	5.2	3530	AZ	9.4	53
UT	5.5	1632	NE	5.1	473	ID	0.0	3
AK	5.1	5296	IN	4.9	364	AK	0.0	16
ID	5.1	3590	MT	4.9	288	ND	0.0	3
NE	5.1	475	AL	4.8	11847	IN	0.0	1
SD	4.9	10325	AK	4.5	719	MT	*	0
IN	4.9	367	ND	3.6	724	NE	*	0
MT	4.7	296	SD	3.3	5478	UT	*	0

* Rate could not be computed.

These data reveal the following trends:

--The ten states with the highest rural poor county LBW rates were:

STATE	RATE
Illinois	10.5
South Carolina	10.5
Mississippi	9.8
Colorado	9.7
Georgia	9.3
Louisiana	9.2
Arkansas	9.1
North Carolina	9.0
Alabama	8.9
Virginia	8.8

--Colorado and New Mexico had the highest white rates of LBW, with 9.6 percent and 9.3 percent, respectively.

--For blacks, rates were highest in Illinois, Oklahoma, Missouri, Virginia, and Kentucky. (This excludes states with less than 100 live births in their RPCs).

Comparison in State Aggregate Data Over Time

State RPC low birthweight data were also analyzed by comparing the numbers of states whose rates improved or worsened during three four-year periods: 1975 compared to 1978, 1978 compared to 1981, and 1981 compared to 1984. These data were included in order to determine relative progress during each period and are presented in Table 11. Table 12 below presents the number of states with higher versus lower rates at the end of each of the four-year periods. These data allow us to determine relative progress during each period.

TABLE 11: LOW BIRTHWEIGHT RATES IN RURAL POOR COUNTIES, BY STATE, FOR THE 1975-84 PERIOD

	Total Races			Whites			Blacks		
	1975-78	1978-81	1981-84	1975-78	1978-81	1981-84	1975-78	1978-81	1981-84
AK	5.8	5.8	5.0	6.7	4.4	4.2	11.1	14.3	0.0
AL	9.1	9.1	8.9	5.2	5.1	5.0	11.1	11.1	11.0
AR	9.5	9.4	9.1	6.3	6.7	6.2	13.0	12.2	12.1
AZ	6.5	6.6	6.0	7.3	6.9	5.9	17.2	7.9	12.2
CO	10.6	10.5	10.0	10.6	10.4	9.9	*	50.0	0.0
FL	8.6	7.6	7.7	6.5	6.4	6.3	13.9	10.8	11.7
GA	9.5	9.3	9.3	5.8	5.9	5.6	12.5	12.2	12.7
ID	4.8	5.1	5.4	4.9	5.2	5.4	0.0	0.0	0.0
IL	9.7	9.0	11.7	6.8	5.5	6.9	13.4	13.3	17.8
IN	6.3	7.1	4.4	5.7	7.1	4.4	50.0	0.0	0.0
KY	7.1	6.9	7.1	7.0	6.7	7.0	11.3	13.7	13.4
LA	9.7	9.2	9.3	6.6	6.2	6.1	13.1	12.9	13.0
MD	8.9	8.1	8.6	7.3	6.6	6.9	15.0	14.3	15.5
MS	10.1	9.9	9.9	6.5	5.9	5.8	12.1	12.0	12.0
MT	5.5	6.0	5.1	4.8	6.1	5.2	*	*	*
NC	9.3	9.2	8.9	6.2	6.2	5.7	12.3	12.1	11.7
ND	7.0	6.3	5.7	6.1	4.0	4.2	*	0.0	0.0
NE	4.4	5.5	3.2	4.5	5.5	3.2	*	*	*
NM	9.4	9.0	8.5	9.9	9.6	9.3	13.5	14.8	10.6
OK	7.1	6.3	7.0	7.4	6.0	6.9	12.1	13.3	14.4
SC	10.8	10.7	10.6	6.1	6.5	6.2	13.2	12.7	12.7
SD	5.3	5.0	5.0	4.3	3.8	3.4	*	0.0	11.8
TN	8.2	7.7	7.7	7.4	6.8	6.8	11.5	11.2	11.5
TX	7.0	6.8	6.3	6.4	6.2	5.9	14.2	14.4	11.7
UT	5.8	6.6	5.4	5.9	6.1	5.3	0.0	0.0	*
VA	7.1	8.2	8.7	5.8	7.4	7.5	13.0	12.5	15.0
WV	6.9	7.2	6.6	7.0	7.2	6.6	0.0	20.0	0.0

* Rate could not be computed.

TABLE 12

	# Improved	# Worsened	# No Change
TOTAL RACES			
1975-1978	12	15	0
1978-1981	21	4	2
1981-1984	15	11	1
WHITES			
1975-1978	14	13	0
1978-1981	16	10	0
1981-1984	14	13	0
BLACKS			
1975-1978	7	12	0
1978-1981	14	4	0
1981-1984	6	12	0

These analyses reveal several trends of interest:

--among all races, rates improved at a far greater rate between 1978 and 1981 than between 1981 and 1984. During this latter period, rates in nearly as many states worsened as improved. This pattern also held for whites.

--a far more disturbing trend occurred among rural poor county black rates. After a great deal of progress between 1978 and 1981, **rates worsened in twice as many states as they improved in between 1981 and 1984.**

INADEQUATE PRENATAL CARE (PNC)

National Profile of Rural Poor County (RPC) Trends

In this set of analyses, inadequate prenatal care data from the nation's rural poor counties were combined for each year to generate one annual RPC rate. For this report, inadequate prenatal care was defined as either no care or prenatal care that did not begin until the third trimester. This definition therefore excludes large numbers of women who received care that was inadequate in frequency and/or quality. (In rural areas especially, a large proportion of pregnant women do not receive the frequency of prenatal care visits generally accepted as a minimum standard for adequate care.)

Table 13 and Figures 6-8 present these data as well as those for the entire United States for the years 1975-1984. (1985 data were not available at the time of the study.)

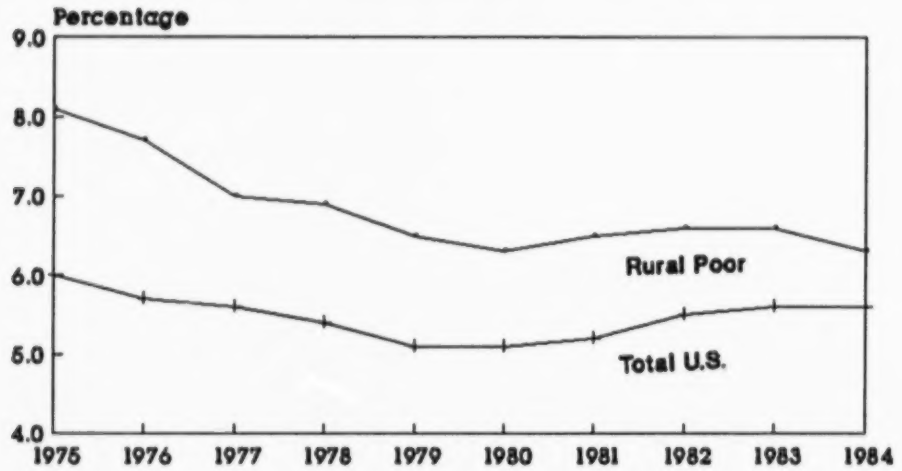
TABLE 13: ANNUAL INADEQUATE PRENATAL CARE* RATES (1975-1984)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
TOTAL RACES										
Rural Poor Counties	8.1	7.7	7.0	6.9	6.5	6.3	6.5	6.6	6.6	6.3
National	6.0	5.7	5.6	5.4	5.1	5.1	5.2	5.5	5.6	5.6
WHITES										
Rural Poor Counties	6.3	6.5	5.7	5.7	5.4	5.3	5.3	5.1	5.3	4.9
National	5.0	4.8	4.7	4.5	4.3	4.3	4.3	4.5	4.6	4.7
BLACKS										
Rural Poor Counties	9.4	8.9	8.1	8.1	7.5	7.2	7.6	7.7	7.6	7.3
National	10.5	9.9	9.6	9.3	8.9	8.8	9.1	9.6	9.7	9.6

* Care initiated either during third trimester or no care received throughout pregnancy.

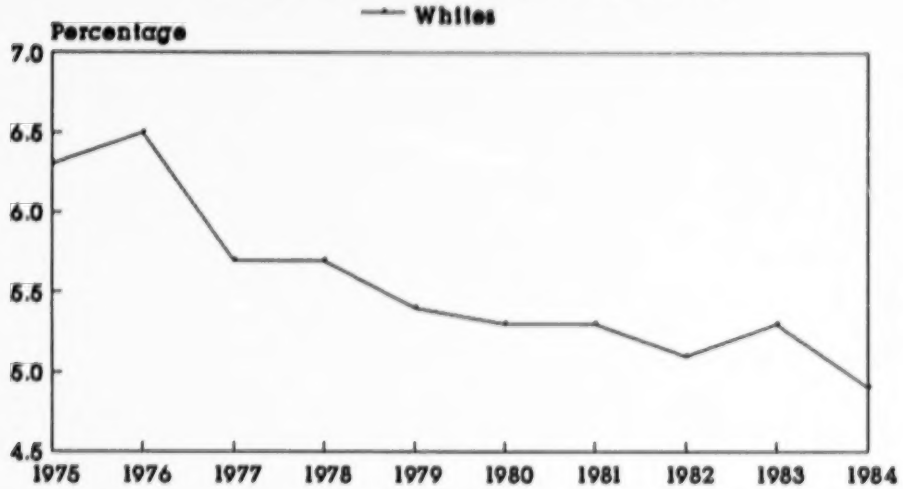
Source: NCHS Natality Data

Fig. 6: Annual Inadequate Prenatal Care Rural Poor Vs Total U.S.



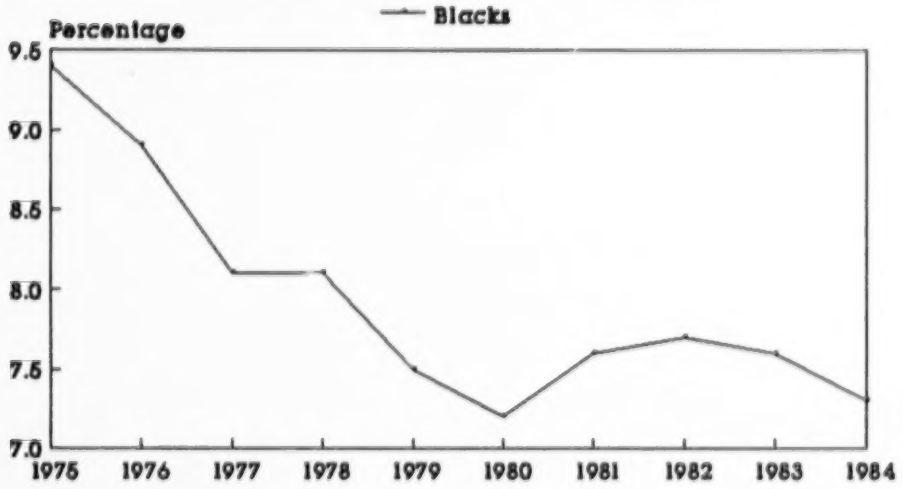
Source: NCHS Natality Data

Fig. 7: Annual Inadequate Prenatal Care Rates in Rural Poor Counties



Source: NCHS Natality Data

Fig. 8: Annual Inadequate Prenatal Care Rates in Rural Poor Counties



Source: NCHS Natality Data

These data reveal:

--A gap exists between national and RPC rates, demonstrating that rural poor county pregnancies are more likely to receive late care or no care at all.

--For each racial group, rates of inadequate care declined significantly between 1975 and 1980, generally reaching their lowest levels in 1980. However, between 1980 and 1984 that trend underwent a reversal, which hit poor rural blacks hardest (the rates actually increased for blacks) and also affected whites.

--This disparity exists for total races and for whites. Among blacks, however, rural poor county rates were somewhat lower than national rates.[5]

These findings are consistent with those of infant mortality and low birthweight presented above; after significant achievement toward lowering rates, trends slowed and in some cases reversed during the the 1980s.

Table 14 compares progress achieved during two successive four-year periods (1976-1980 vs 1980-1984).

TABLE 14: COMPARATIVE TRENDS IN RURAL POOR COUNTY INADEQUATE PRENATAL CARE RATES DURING TWO PERIODS*

	Rate 1976	Rate 1980	% Decline 1976-1980	Rate 1980	Rate 1984	% Change 1980-1984
Total	7.7	6.3	**18.2%**	6.3	6.3	**0.0%**
Whites	6.5	5.3	**18.5%**	5.3	4.9	**7.6%**
Blacks	8.9	7.2	**19.1%**	7.2	7.3	**1.4%** (Increase)

*Four year periods are used rather than five because 1985 county level prenatal care data necessary for this analysis were not available at the time of the study

[5] Caution must be taken in the interpretation of these data, because of the high proportion of black rural county data in which prenatal care information was either missing or not reported. (This phenomenon occurred far more often with this variable than either LBW or IM.)

This table demonstrates that, while rapid improvements in rural poor access to prenatal care were achieved between 1976 and 1980, between 1980 and 1984 few if any improvements were made. For blacks residing in poor rural America, access actually declined.

State RPC Aggregate Inadequate Prenatal Care Analyses

PNC data for rural poor counties combined at the state level are presented in Tables 15-17. Table 18 presents average Inadequate PNC rates and total live births, by race and by state, for the 1980-1984 period. These data represent the "five-year average" IMR for the rural poor counties in each state.

TABLE 15: INADEQUATE PRENATAL CARE* ANNUAL RATES IN RURAL POOR COUNTIES, BY STATE

Total Races

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
AK	N/A	N/A	N/A	10.8	8.0	7.8	8.3	8.7	6.8	6.9
AL	N/A	8.7	8.1	8.5	8.3	8.5	8.3	9.0	7.6	8.0
AR	N/A	N/A	N/A	7.7	7.2	7.5	7.9	7.3	8.3	7.4
AZ	20.9	17.6	18.2	12.8	10.6	8.6	9.9	9.8	11.7	11.6
CO	6.4	3.7	8.8	6.1	6.4	8.4	5.2	6.3	9.6	7.5
FL	14.8	8.5	7.6	7.0	6.5	8.0	8.3	6.3	7.2	7.1
GA	7.2	6.6	4.9	6.4	5.8	4.9	6.6	7.9	5.9	5.0
ID	N/A	N/A	N/A	5.2	5.6	5.7	6.0	5.8	7.2	6.4
IL	8.2	5.4	4.8	6.2	5.7	4.3	3.2	3.8	2.4	4.2
IN	0.0	0.0	0.0	4.4	1.2	1.5	3.9	1.3	0.0	4.0
KY	8.2	7.4	6.6	6.4	5.6	5.1	4.9	4.7	5.3	5.0
LA	6.5	6.7	6.3	6.2	5.9	5.8	5.4	5.0	4.7	5.4
MO	9.3	8.4	7.3	7.9	8.6	6.7	6.4	7.4	7.1	5.3
MS	6.8	5.4	5.3	5.3	4.6	3.8	4.1	4.0	4.5	3.8
MT	5.8	3.8	5.7	3.3	3.8	1.7	5.1	1.8	1.6	1.8
NC	7.0	4.8	4.8	4.3	3.5	3.0	4.0	3.2	3.4	3.4
ND	11.2	7.5	7.1	6.4	7.4	9.5	6.4	9.6	5.9	7.2
NE	5.0	5.3	0.0	2.9	4.1	1.0	2.9	4.2	3.8	4.1
NM	N/A	N/A	N/A	N/A	N/A	13.6	13.1	13.0	13.0	11.0
OK	9.4	7.7	6.5	6.2	6.1	5.3	6.8	7.8	6.5	7.8
SC	6.4	6.3	5.3	4.8	6.6	6.0	6.3	6.0	6.9	6.6
SD	11.2	9.5	9.0	7.2	8.3	8.9	9.1	9.5	8.8	8.2
TN	7.7	6.9	5.8	5.7	5.8	5.1	5.4	5.0	4.5	4.5
TX	13.0	13.6	12.4	12.3	11.5	12.7	12.2	11.0	10.9	10.3
UT	10.5	15.8	9.5	7.1	10.9	9.3	9.1	14.3	12.7	7.1
VA	N/A	N/A	N/A	7.3	5.5	7.5	4.9	7.3	7.2	4.7
WV	13.5	5.2	5.4	5.5	6.2	4.7	6.0	6.2	7.0	8.7

N/A: Data not available. 0.0 live births or rates greater than 99% (reflecting extremely small numbers of live births) are also indicated by N/A. However, rates of 0.0 in states with small numbers of live births are provided.

* Care initiated either during third trimester or no care received throughout pregnancy.

TABLE 16: INADEQUATE PRENATAL CARE* ANNUAL RATES IN RURAL POOR COUNTIES, BY STATE

Whites

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
AK	N/A	N/A	N/A	2.3	3.8	2.9	2.3	4.1	2.5	3.1
AL	N/A	3.8	3.2	3.9	4.4	4.8	3.4	4.1	2.9	3.6
AR	N/A	N/A	N/A	4.1	4.5	4.7	4.9	4.7	5.8	4.8
AZ	12.9	8.3	9.1	7.0	6.8	6.4	7.9	6.9	7.4	9.7
CO	6.1	3.7	8.8	6.1	6.4	8.6	5.2	6.3	9.3	7.6
FL	13.4	7.3	6.2	6.6	6.2	6.8	7.2	5.1	6.6	6.7
GA	3.8	4.2	2.4	4.4	3.8	3.1	3.4	3.4	3.1	2.4
ID	N/A	N/A	N/A	5.1	5.4	5.8	5.7	5.7	7.3	6.1
IL	5.6	3.2	2.8	3.6	3.9	4.8	3.2	3.9	2.1	2.9
IN	0.0	0.0	0.0	4.4	1.2	1.5	3.9	1.3	0.0	4.1
KY	8.2	7.4	6.5	6.4	5.6	5.1	4.8	4.6	5.4	5.0
LA	3.6	3.8	3.5	3.8	3.6	3.2	3.1	3.3	3.0	3.1
MD	7.8	7.3	6.9	8.0	7.4	6.6	6.6	7.7	6.6	4.9
MS	2.4	3.0	2.4	2.3	2.2	1.4	2.0	1.4	1.8	1.5
MT	4.5	4.0	5.8	3.3	3.8	1.8	5.2	1.8	1.6	0.0
NC	3.2	1.9	1.9	2.0	1.6	1.8	2.1	1.5	1.8	1.9
ND	6.6	4.4	3.5	2.9	3.3	4.7	3.6	2.2	0.9	2.5
NE	5.0	5.3	0.0	2.9	4.1	1.0	2.9	4.2	3.8	4.1
NM	N/A	N/A	N/A	N/A	N/A	11.0	11.0	11.5	11.4	7.7
OK	6.6	5.3	5.2	3.9	4.4	3.9	6.1	5.2	4.6	5.1
SC	3.9	3.1	2.8	2.2	3.8	3.5	4.0	3.3	3.6	3.7
SD	4.8	4.1	4.3	3.0	2.5	3.8	3.8	3.7	3.4	4.0
TN	6.7	6.4	5.0	5.0	5.6	4.7	5.2	4.7	4.3	4.4
TX	13.0	13.7	12.7	12.5	11.9	12.6	12.1	10.8	10.5	10.1
UT	5.7	7.5	3.0	2.8	4.8	4.4	3.9	3.8	5.2	2.7
VA	N/A	N/A	N/A	5.3	5.1	7.1	5.0	6.8	6.4	4.3
WV	13.5	5.2	5.3	5.5	6.2	4.7	6.0	6..	7.0	8.7

N/A: Data not available. 0.0 live births or rates greater than 99% (reflecting extremely small numbers of live births) are also indicated by N/A. However, rates of 0.0 in states with small numbers of live births are provided.

* Care initiated either during third trimester or no care received throughout pregnancy.

TABLE 17: INADEQUATE PRENATAL CARE* ANNUAL RATES IN RURAL POOR COUNTIES, BY STATE

Blacks

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
AK	N/A	N/A	N/A	0.0	N/A	0.0	0.0	50.0	0.0	0.0
AL	N/A	11.3	10.6	10.7	10.2	10.2	10.8	11.6	10.2	10.2
AR	N/A	N/A	N/A	11.8	10.2	10.3	10.9	10.4	10.7	10.1
AZ	14.3	42.9	25.0	12.5	0.0	9.1	12.5	0.0	30.0	0.0
CO	N/A	N/A	N/A	N/A	N/A	0.0	N/A	N/A	N/A	0.0
FL	17.5	11.0	11.4	8.3	7.1	10.8	11.4	9.0	8.8	8.1
GA	10.1	8.7	7.0	7.9	7.6	6.5	9.4	11.9	8.5	7.5
ID	N/A	N/A	N/A	0.0	N/A	0.0	0.0	N/A	N/A	0.0
IL	11.4	7.8	7.7	9.4	7.9	3.8	3.3	3.8	2.9	5.7
IN	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0
KY	9.4	5.5	6.9	5.9	7.4	5.3	9.0	6.6	4.7	4.2
LA	9.6	9.7	8.8	8.5	8.5	8.5	8.4	7.1	6.9	8.2
MD	14.1	12.3	8.3	7.6	13.0	6.7	5.6	6.4	8.4	7.0
MS	9.0	6.8	6.7	6.8	5.8	5.1	5.1	5.4	5.8	4.9
MT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NC	10.0	7.3	7.4	6.4	5.1	4.0	5.4	4.7	4.5	4.8
ND	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	N/A	N/A
NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NM	N/A	N/A	N/A	N/A	N/A	50.0	0.0	11.5	12.5	7.7
OK	12.7	21.9	11.8	10.4	7.7	3.2	9.4	13.2	8.5	3.1
SC	7.7	7.9	6.6	6.0	7.9	7.1	7.4	7.4	8.6	8.0
SD	N/A	N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	42.9
TN	11.5	8.8	8.2	8.0	6.6	6.7	6.6	6.4	5.7	4.7
TX	12.4	11.3	9.3	9.6	7.3	13.5	13.9	13.6	15.7	12.7
UT	N/A	N/A	N/A	N/A	0.0	N/A	N/A	N/A	N/A	N/A
VA	N/A	N/A	N/A	17.4	7.8	9.5	4.3	10.0	11.1	7.4
WV	N/A	N/A	N/A	N/A	0.0	0.0	0.0	N/A	0.0	N/A

N/A: Data not available. 0.0 live births or rates greater than 99% (reflecting extremely small numbers of live births) are also indicated by N/A. However, rates of 0.0 in states with small numbers of live births are provided.

* Care initiated either during third trimester or no care received throughout pregnancy.

TABLE 18: INADEQUATE PRENATAL CARE* RATES IN RURAL COUNTIES, BY STATE, FOR THE 1980-84 PERIOD

(IN DESCENDING ORDER)

Total Races			Whites			Blacks		
	Rate	Total Births		Rate	Total Births		Rate	Total Births
NM	12.6	12875	TX	11.2	33243	ND	33.3	3
TX	11.4	35935	NM	10.3	7311	CO	25.0	4
UT	10.4	1583	AZ	7.6	2659	SD	18.7	16
AZ	10.4	9633	CO	7.4	1562	TX	13.9	2528
SD	8.9	10172	FL	6.5	5560	NM	12.0	83
AL	8.3	33893	MO	6.5	7148	AL	10.6	22066
AK	7.7	4948	WV	6.5	2462	AR	10.5	11479
AR	7.7	23737	ID	6.1	3481	AZ	9.8	51
ND	7.4	2016	VA	5.9	2012	FL	9.6	2072
FL	7.4	7663	OK	5.0	4639	GA	8.7	10992
CO	7.4	1574	KY	5.0	39614	VA	8.6	384
OK	6.8	6867	AR	5.0	12128	LA	7.8	23350
MO	6.6	8978	TN	4.7	13736	SC	7.7	20266
WV	6.4	2468	UT	4.0	870	OK	7.2	373
SC	6.4	30201	AL	3.8	11721	MO	6.8	1800
VA	6.3	2396	SD	3.7	5419	AK	6.3	16
ID	6.2	3540	SC	3.6	9803	TN	6.0	3242
GA	6.1	20951	IL	3.4	981	KY	5.9	744
LA	5.3	51368	NE	3.2	472	MS	5.3	52170
KY	5.0	40421	LA	3.1	28074	NC	4.7	9536
TN	4.9	17011	GA	3.1	9915	IL	4.0	806
MS	4.1	79279	AK	3.0	698	ID	0.0	3
IL	3.6	1794	ND	2.5	723	IN	0.0	1
NC	3.4	18750	IN	2.2	360	WV	0.0	5
NE	3.2	474	MT	2.1	285	MT	**	0
MT	2.4	292	NC	1.8	8398	NE	**	0
IN	2.2	363	MS	1.6	26725	UT	**	0

* Care initiated either during third trimester or no care received throughout pregnancy.

** Rate could not be computed.

The following trends were observed:

--The ten states with the highest rural poor county Inadequate PNC total race rates were:

STATE	RATE (%)
New Mexico	12.6
Texas	11.4
Utah	10.4
Arizona	10.4
South Dakota	8.9
Alabama	8.3
Alaska	7.7
Arkansas	7.7
North Dakota	7.4
Florida	7.4

--Among whites, rates were highest in Texas (11.2%) and New Mexico (10.3%).

--In states with PNC rural poor county data for at least 100 black pregnancies, the highest black rates were in Texas (13.9%), New Mexico (12.0%), Alabama (10.6%), and Arkansas (10.5%).

Comparison of State Aggregate Data Over Time

State RPC PNC data were also analyzed by comparing the numbers of states whose rates improved or worsened during three four-year periods; 1975 compared to 1978, 1978 compared to 1981, and 1981 compared to 1984. These analyses were included in order to determine relative progress during each period and are presented in Table 19.

TABLE 19: INADEQUATE PRENATAL CARE* RATES IN RURAL POOR COUNTIES, BY STATE, FOR THE 1975-84 PERIOD

	Total Races			Whites			Blacks		
	1975-78	1978-81	1981-84	1975-78	1978-81	1981-84	1975-78	1978-81	1981-84
AK	10.8	8.7	7.6	2.3	2.8	3.0	0.0	0.0	7.1
AL	8.4	8.4	8.2	3.6	4.1	3.5	10.9	10.5	10.7
AR	7.7	7.6	7.7	4.1	4.6	5.0	11.8	10.7	10.5
AZ	17.3	10.4	10.8	9.2	7.0	7.9	23.1	8.6	10.0
CO	6.2	6.6	7.1	6.2	6.6	7.0	**	0.0	50.0
FL	9.1	7.5	7.2	8.0	6.7	6.4	11.7	9.5	9.3
GA	6.2	5.9	6.4	3.7	3.7	3.1	8.4	7.8	9.4
ID	5.2	5.6	6.3	5.1	5.5	6.2	0.0	0.0	0.0
IL	6.1	4.9	3.4	3.7	3.9	3.0	9.0	6.1	4.0
IN	1.9	2.7	2.4	1.9	2.7	2.4	0.0	**	0.0
KY	7.0	5.5	5.0	7.0	5.5	4.9	6.6	6.8	6.1
LA	6.4	5.8	5.1	3.7	3.4	3.1	9.1	8.5	7.6
MD	8.2	7.3	6.5	7.5	7.1	6.4	10.6	8.2	6.9
MS	5.7	4.3	4.1	2.5	1.9	1.7	7.3	5.5	5.3
MT	4.7	3.5	2.6	4.4	3.5	2.2	**	**	**
NC	5.2	3.7	3.5	2.2	1.9	1.8	7.8	5.2	4.9
ND	8.0	7.4	7.0	4.4	3.6	2.1	**	**	0.0
NE	3.4	2.7	3.7	3.4	2.8	3.7	**	**	**
NM	**	13.3	12.4	**	11.0	10.2	**	20.0	9.1
OK	7.4	6.1	7.2	5.3	4.6	5.3	13.9	7.2	8.6
SC	5.7	5.9	6.5	3.0	3.3	3.6	7.0	7.1	7.8
SD	9.2	8.6	8.9	4.1	3.4	3.7	**	0.0	20.0
TN	6.5	5.5	4.9	5.8	5.1	4.6	9.0	7.0	5.9
TX	12.8	12.2	11.1	13.0	12.3	10.9	10.4	11.0	14.0
UT	9.9	9.1	10.7	4.1	4.0	3.9	**	0.0	**
VA	7.3	6.4	6.0	5.3	5.7	5.6	17.4	10.2	8.3
WV	6.4	5.6	6.9	6.4	5.6	6.9	**	0.0	0.0

* Care initiated either during third trimester or no care received throughout pregnancy.
** Rate could not be computed.

Table 20 presents the number of states with higher versus lower rates at the end of each period.

TABLE 20:

	# Improved	# Worsened	# No Change
TOTAL RACES			
1975-1978	20	1	0
1978-1981	14	11	1
1981-1984	15	11	1
WHITES			
1975-1978	16	5	0
1978-1981	11	14	1
1981-1984	16	10	1
BLACKS			
1975-1978	13	0	0
1978-1981	9	6	3
1981-1984	12	6	2

These analyses reveal;

--among total races, rates improved at the most rapid rate between 1975 and 1978. Since that time, nearly as high a proportion of states have lost ground as have gained (14 vs 11, 15 vs 11).

-A similar pattern was found among white rates, except that between 1978 and 1981 a greater proportion of states had increasing white rates.

--Among blacks, the most progressive trend also occurred in the 1975-1978 period. Since that time, black state RPC rates in numerous states have increased.

SUMMARY AND CONCLUSIONS

The data presented in this report demonstrate that the state of infant health in America's impoverished rural areas is cause for serious concern. After examining rural poor county data for three key indicators of rural health, we found that residents of these counties experience higher rates of infant mortality, low birthweight, and inadequate prenatal care than do Americans as a whole. Worsening trends in rural poor low birthweight rates are especially troubling. **After steady improvements throughout the 1970s, the 1980s ushered in a period of steadily increasing rates. Of special concern is the considerable increase in rural poor county low birthweight rates that took place in 1985.**

Moreover, **between 1975 and 1985 this disparity resulted in more than four thousand additional infant deaths in impoverished rural counties** than would have occured if rural poor county rates had been equal to national rates. Also of immediate concern is the dramatic slowdown during the 1980's in progress toward lowering rural poor area infant mortality rates.

The study found that prenatal care, a critical factor in reducing the prevalence of low birthweight and infant mortality, is less accessible to residents of impoverished rural areas of the country. After years of increasing access to prenatal care by poor rural women, progress toward this goal reversed between 1980 and 1981 and has contiuned to backslide since.

RECOMMENDATIONS

Based on the high rates of infant mortality, low birthweight and inadequate prenatal care identified by this analyis, and the overall deterioration in infant health that the rural poor have experienced in recent years, a serious initiative aimed at improving infant health in rural areas is urgently needed.

The following are recommendations for targeted interventions developed to address these problems. They are presented in three categories: Delivery of Services; Funding; Education and Research.

We support the recommendations presented in the 1985 report by the Southern Regional Task Force on Infant Mortality[37] and those recently published by the Commission to Prevent Infant Mortality.[38] We have built upon and adapted a number of these recommendations to better target the special needs of the rural poor. The majority of our recommendations are also relevant to national infant health needs.

We recommend the following actions:

DELIVERY OF SERVICES

1. Establishment of a national network of state-based coordinating councils to increase provision of family planning as well as maternal and infant health services to high-risk populations such as the rural poor. The councils' objectives would be to coordinate the efforts of health professionals, social workers, educators, community groups, non-profit organizations, and the private sector.

2. The Public Health Service should create a regionalized perinatal health care system that involves a multi-tier hospital framework providing different levels of care and includes remote areas. Ongoing communication and coordination between the various care levels of facilities (i.e., primary, secondary, tertiary) would ensure maximum use of resources and improved individual awareness of and access to available services in the countryside.

3. Establishment of mobile health units to provide access to persons deprived of medical care due to problems of distance and/or lack of transportation. These units could be a vital source of information about preventive medicine, especially nutrition. According to the 1985 Final Report of the Southern Regional Task Force on Infant Mortality, "The primary focus of the mobile units is to draw the individual into the public health system by bringing 'the system' to the individual."[39]

4. Existing federal programs should better coordinate their efforts in serving the rural poor.

5. Upgrading of the Bureau of Maternal and Child Health (presently within the Health Research and Services Administration) to "an organizational entity of sufficient stature and prestige to mobilize and coordinate programs and sources of funds in many

separate agencies in the service of improved maternal and child health."[40] In this way, states would find clearer direction for allocating their resources and for defining their own standards and strategies.

6. State health departments should create multi-county/regional healthy mothers/healthy babies coalitions (in such a manner to conform to intra-state health districs or regions) to disseminate health information to persons living in remote areas. Expanding the range of promotional activities, such as TV and radio advertisements, roadside billboards, brochures, school materials, and booths in shopping areas can greatly heighten rural dwellers' awareness of maternal and infant health issues.

FUNDING

1. The federal government should guarantee basic health care to every needy pregnant woman and infant. Rural mothers are especially vulnerable to exclusion from government maternal health assistance due to complicated, fluctuating eligibility standards that are often ineffective in meeting the needs of the people they are designed to serve. A universal prenatal and infant care financing program should be organized and funded.

2. Increase Maternal and Child Health Block Grant funds to satisfy the frequently unmet requirements of mothers and infants in remote areas. Boosting Block Grant funds aimed at needy rural mothers and infants would emphasize preventive health care and therefore result in long-term savings in health costs.

3. Funding for the WIC (Women, Infants, and Children) Program, should be increased in order to reach a considerably larger proportion of the eligible rural poor. At present, approximately 35-40 percent of eligible mothers and children are receiving program benefits.

4. Many states should readjust their AFDC eligibility standards upward, making them more consistent with federal standards. State levels ought to be no less than 50 percent of the current federal poverty level. A major obstacle confronting the rural poor is that many households are categorically ineligible for AFDC and Medicaid because both parents reside at home. Current legislative initiatives and state efforts to

broaden eligibility for AFDC and Medicaid to two-parent households (AFDC-UP) should be widely adopted in order to increase participation in these critical assistance programs among this category of people.

5. Implement a national state-based comprehensive Medicaid package to assist pregnant women and infants with incomes over 50 percent of the poverty level. There should be no conditions on the availability of Medicaid benefits to all pregnant women and infants below poverty.

EDUCATION AND RESEARCH

1. Both the federal government and states should require more information about the effectiveness of preventive programs such as Medicaid and WIC among the rural poor. Timely release of this data would greatly assist state and federal legislatures and agencies in planning future health programs. The private sector should be called upon to assist in identifying inefficiencies.

2. States should set up information clearinghouses on rural poverty for legislative staff and administrators. This educational body would provide background data and analysis on health issues faced by citizens in remote areas and make suggestions on appropriate legislation.

3. Involve business, religious, and civic leaders in confronting the problem of poor health in rural areas, especially as it pertains to mothers and infants. Major corporations, the Chamber of Commerce, religious and civic leaders must all play an important role in highlighting the gravity of the situation if a long-term, consistent, and successful policy is to be implemented.

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